

California Policy Options 2019

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Edited by Daniel J.B. Mitchell

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Preface

California Policy Options, published since 1997, has informed researchers and journalists, as well as leaders and lawmakers, with a timely collection of research and public policy recommendations on issues and opportunities in the state.

The annual publication advances research-based solutions for California's many, multi-faceted urban and regional challenges. The chapters in this publication highlight a wide variety of statewide issues and those that affect cities, local communities and individuals. This year's collection again looks at California's budget situation and its leadership, regional issues such as transportation in Los Angeles and water quality, energy and other technology including infrastructure for charging stations for electric vehicles and mass electronic surveillance.

UCLA Professor Daniel J.B. Mitchell has again brought together a timely collection of California-focused articles that add to a long list of important readings not only for policy and law makers but, for Luskin undergraduate students enrolled in the School's popular California Policy Issues course which has been co-taught by Prof. Mitchell and Visiting Professor Michael Dukakis for more than 20 years.

This edition, *California Policy Options 2019*, continues a long-established tradition of providing analysis of the state's public policy problems from a variety of viewpoints as well as their political, economic and historic contexts.

Gary Segura

Dean, UCLA Luskin School of Public Affairs

Introduction

The 2019 edition of *California Policy Options* deals with infrastructure, green technology, urban and regional economics, state economics and finance, and issues related to privacy and law enforcement. Chapter 1 by Daniel J.B. Mitchell ("*The Conflict Diamonds of Adriana Gianturco*") explains a local Los Angeles anomaly: Why there is no diamond lane (carpool lane) on the Santa Monica Freeway. The answer goes back to the 1970s before a lesson was painfully learned. Driver/commuters will strongly resist the taking away of a lane for carpool use, although they won't resist the adding of a new lane for carpooling.

Water supply has always been a contentious issue in California. But in Chapter 2 ("*LA TAP: Evaluating the Customer Experience of Tap Water in Los Angeles*"), Virdiana Auger-Velez, Rachel LaCoe, Caleb Rabinowitz, and Bei Zhao remind us that in the end, water is a commodity delivered for a price to customers of local agencies. Ultimately, just as in any retail transaction, sellers, they point out, should be concerned about consumer tastes and perceptions.

The process of electricity supply has both traditional infrastructure properties and, increasingly, embedded "green" or environmental issues. Retail consumers may well have concerns about the sources of their power and their environmental implications as well as an obvious concern about price. In Chapter 3, JR DeShazo, Julien Gattaciecce, and Kelly Trumbull ("*The Promises and Challenges of Community Choice Aggregation in California*") point to a new system of retail distribution of power in California which substitutes for tradition privately-owned commercial utilities. The new system of community choice aggregation can offer green power sources and lower prices in some circumstances. But the details of the external regulatory and legal framework will be important in the development of the alternative system.

Electrical supply has another potential "green" element when used to power automobiles. However, for electric cars to become attractive, infrastructure for charging the vehicles must become sufficiently ubiquitous. In Chapter 4, Sarah Burtner, Gina Charusombat, Tiffany Chu, and Yuharu Nagiri ("*Charge It! Investing in Public Charging Infrastructure in Southern California*") examine the availability of charging stations in LA County and suggest priorities that need to be adopted for increasing their availability. The authors find that certain areas in the county should be targeted for increased availability to make electric car travel more attractive.

We tend to think of urban and regional economics as an inherently local topic. But as William Yu points out in Chapter 5 ("*How Important is International Trade to Los Angeles?*"), the Los Angeles area has significant infrastructure and logistical support activities connected to international trade through its port and airport facilities. Thus, the LA economy is more

sensitive to trends in international commerce than the US as a whole. LA, therefore, would be more vulnerable to economic injury should there be a trade war with China or other countries.

In Chapter 6, Paul Ong, Andre Comandon, Alycia Cheng, and Sylvia González examine the economic development of South Los Angeles ("*South LA Since the Sixties*"), an area noted for being the location of the Watts Riot of the mid-1960s and the LA Riot of the early 1990s. The authors examine developments in employment and earnings, housing, transportation, and education and find improvements by some measures but difficulties by others. Job opportunities and affordable housing in particular show adverse trends.

Although the urban riots of the 1960s and 1990s remain significant historical markers, the most recent notable economic event was the financial collapse and recession of 2008. In Chapter 7, Kenya Covington, Annia Yoshizumi, Jesus "Chuy" Flores, and Allan Nguyen ("*Mixed Evidence of Local Neighborhood Stabilization: Lessons from the East Bay and South Los Angeles*") look at a federal effort to "stabilize" South LA and East Bay in the wake of the financial collapse. Defaults on mortgages and abandoned housing threatened the local economies and residents. The federal Neighborhood Stabilization effort did seem to have some positive effect on measured poverty. But other indicators of program success were more ambiguous. Further research on the effects of such policies seems to be required.

One of the key determinants of the condition of the California state budget is the general state of the economy. Growth brings in more tax revenue. Recession cuts revenue, particularly because of the heavy dependence of state revenue on the fates of top income earners. In Chapter 8, Daniel J.B. Mitchell ("*The Handover Budget of 2018-19: The Fiscal Legacy of Jerry Brown*") notes that outgoing Governor Jerry Brown, in fashioning his final budget (for fiscal year 2018-19) leaves office with a public sense that he brought fiscal stability to the state. However, other aspects of his potential legacy, notably a high-speed rail line and a major water project, may never be completed under the next governor. Exactly what his successor, Gavin Newsom, will do about those projects and whether he will emphasize Brown's fiscal prudence remains to be seen.

As for the near-term state of the economy during the 2018-19 fiscal year and beyond, in Chapter 9 Robert Kleinhenz ("*California Forecast: OK for Now But Housing Costs Remain an Issue*") finds that the California economy remains strong. But ongoing structural issues remain, notably new housing construction running at a pace insufficient to address the affordability issue. And the affordability issue in turn tends to retard labor force growth which leads to slower overall economic growth.

Finally, in Chapter 10, Stan Paul ("*Records of Investigations vs. Bulk Data Collection: Automatic License Plate Readers and the California Public Records Act*") explores the tension between law enforcement needs and the right to privacy in the case of a technology that makes possible the bulk scanning of vehicle license plates. Such technology could be useful for California law enforcement in tracking stolen cars and dealing with crimes such as child abduction. But the same technology makes possible the tracking of private citizen/motorists going about their lawful business. The legal and policy question is where to balance the competing concerns.

This is the twenty-second edition of *California Policy Options*. It was originally created in part to serve as a textbook for Public Policy 10b – California Policy Issues – a UCLA course that began in the Economics Department in 1994 – twenty-five years ago – and then migrated with the creation of what is now the UCLA Luskin School of Public Affairs to the School’s Department of Public Policy. I would like to thank Stan Paul for handling the production of *California Policy Options* for many years as well as his past and current chapter contributions.

Daniel J.B. Mitchell

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and UCLA Luskin School of Public Affairs

Chapter 1

The Conflict Diamonds of Adriana Gianturco

Daniel J.B. Mitchell

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“Ms. Gianturco and Caltrans believe they know better than the public what’s best for Los Angeles...With people as stubborn as she is, it doesn’t pay to be diplomatic.”

LA City Councilman Zev Yaroslavsky¹

Anyone who has driven on California freeways is likely to be familiar with HOV or “High Occupancy Vehicle” lanes. Such lanes, typically near the center median, allow only cars with a designated number of occupants (always more than one), and are generally marked by diamonds. They are sometimes referred to as “Diamond Lanes” because of the markings and are intended to encourage carpooling.

One place where drivers won’t see such lanes is on the Santa Monica Freeway between downtown LA and the City of Santa Monica (I-10). They were briefly used on that route after the 1994 Northridge earthquake. Carpoolers at that time could bypass some of the heavy congestion caused by a collapsed overpass. But once the overpass was repaired, the temporary Diamond Lanes reverted to all-vehicle traffic. Few remember that short quake-related episode of Diamond Lanes on the Santa Monica Freeway. But old timers will more likely recall the furor caused in 1976, when Diamond Lanes were installed on the Santa Monica Freeway – and then removed as public anger grew and a court intervened.

At the center of the tempest back in 1976 was Adriana Gianturco, the newly installed head of a (then) recently created California Department of Transportation (Caltrans). Gianturco had been appointed by Governor Jerry Brown during the first term of his first gubernatorial iteration. And the Diamond Lane episode on the Santa Monica Freeway was a contributor to his reputation of that era as “Governor Moonbeam.”

The Diamond Lane brouhaha seemed to be a byproduct of Brown’s belief during that gubernatorial iteration in an “era of limits” and, more generally, of his liking for new and unconventional ways of thinking. Along with his preference for new thinking came appointments of officials who didn’t fit the traditional mold. Yet before the axe fell on the Santa Monica Diamond Lanes, it was largely Gianturco – not Brown – who was blamed. Indeed, the Diamond Lanes episode followed her throughout her career as the Caltrans’ chief and colored her image thereafter. Diamonds *were* forever in her case. And just as Jerry Brown had to live with the “Moonbeam” appellation, Gianturco was tarred with “Giant Turkey.”²

In this chapter, we look at the 1976 Diamond Lane fiasco, and what lessons can be drawn from it, both in terms of transportation and of governance.

¹Quoted in Ray Hebert, “Caltrans Accused of Breaking Pact on Diamond Lane,” *Los Angeles Times*, October 1, 1976, p. C3.

²Bettijane Levine, “A Driven Woman: Adriana Gianturco fought a lonely battle for car-pool lanes in 1976. Now they’re a part of the L.A. Map,” *Los Angeles Times*, February 22, 1994, pp. E1-E2. To a lesser extent, Gianturco is also associated with the effort to name Interstate 10 – including the Santa Monica Freeway – as the “Christopher Columbus Transcontinental Highway” (before Columbus became politically incorrect). See Steve Harvey, “Traffic Update for Record Book: Santa Monica Freeway Is No. 1,” *Los Angeles Times*, February 23, 1988.

Freeway Background

“In just a couple more days they’re going to close the freeway, and you won’t be able to go anywhere on the 405. As opposed to when it’s open and you can’t go anywhere on the 405.”

TV comedian Jay Leno on “Carmaggedon,”
the temporary 2011 closure of I-405 to rebuild an overpass³

The first California freeway – essentially a limited access, high-speed highway – was what is now the Pasadena Freeway, completed in 1940, in part as a Great Depression job-creation project. However, any further freeway building was delayed by World War II. After the war, California, under Governor Earl Warren, searched for a funding mechanism to develop a more extensive freeway system and found it in the 1947 Collier-Burns Act. The Collier-Burns model, a gasoline tax put in a trust fund earmarked for roads, was emulated at the federal level under the Eisenhower Administration in 1956.⁴ Thereafter, state funds for building the interstate highway system were heavily subsidized by the feds, spurring a burst of freeway construction in California.

The added federal funding in the late 1950s coincided with the 1958 election of Governor Pat Brown – father of Jerry – and a man steeped in the New Deal orientation of the Democratic Party towards spending on public works and on economic planning. Pat Brown is remembered not only for the freeway expansion during his two terms in office, for creation of the State Water Project, and for the Master Plan for Higher Education and its creation of new University of California and Cal State campuses. Father Pat, unlike son Jerry, was definitely not a believer in an “era of limits.” Perhaps that is one reason he was defeated in his campaign for a third term by Ronald Reagan (there were no term limits back then). Brown the Elder found himself in the midst of a state budget crisis during his 1966 campaign, always a bad place to be in for an incumbent seeking reelection.⁵

Despite Pat Brown’s loss to Reagan, he left a legacy of freeway construction, which peaked in terms of miles added, around the time of the 1966 election.⁶ Construction continued under Reagan but trended down. In the gubernatorial election of 1974, Pat Brown’s son Jerry followed

³Quoted in Lee Breslouer, “11 Quintessential Quotations from Californians About Traffic,” *Thrillist*, July 29, 2015. <https://www.thrillist.com/entertainment/nation/quotes-about-traffic-californians-about-traffic>.

⁴Daniel J.B. Mitchell. (Summer 2006). Earl Warren's Fight for California's Freeways, Setting a Path for the Nation. *Southern California Quarterly*, Vol. 88, pp. 205-238. Available at http://www.anderson.ucla.edu/documents/areas/fac/hrob/mitchell_freeway.pdf.

⁵This episode is discussed in Daniel J.B. Mitchell, “Standing in Front of the Ballot-Box Train: The Past and Present of Ballot-Box Budgeting,” *California Policy Options: 2006* (UCLA Luskin School of Public Affairs, 2006), pp. 15-91, especially pp. 50-53. Available at <https://escholarship.org/uc/item/2tt6917g>.

⁶Brian D. Taylor, “Why California Stopped Building Freeways,” *Access*, Fall 1993. Available at <https://www.accessmagazine.org/fall-1993/why-california-stopped-building-freeways/>.

Reagan as governor after the latter's two terms.⁷ And Jerry seemed to take lessons from his father's earlier defeat by Reagan. In particular, as a result of father Pat's budget crisis, he picked up fiscal conservatism and the notion of building up a budgetary reserve. Thus, son Jerry's "era of limits" can be seen as a desire to avoid large state commitments both to social programs and to public works.

Moreover, by the time Jerry Brown first took office in 1975, the freeway system in California had already been substantially enlarged; adding to it would be costly and was already colliding with the growing environmental movement in California. Thus, the notion of using the *existing* freeway infrastructure more efficiently, rather than expanding it, was an appealing concept. At least in the abstract, the idea of increased efficiency was something on which both liberals (particularly those with environmental leanings) and conservatives (with concerns about government spending) could agree.

HOV lanes in theory provided incentives for carpooling or bus use. If you formed a carpool or took the bus, you could access a relatively empty Diamond Lane and bypass the congestion of single-passenger vehicles. And if more people could be moved with fewer cars, the freeways would be used more efficiently. Who could object to that? What could possibly go wrong? As it turned out, lots of people could object, and lots could go wrong, but we'll return to that story later in this chapter.

The Gianturco Appointment

"Many legislators...have told me 'Adriana, you have a problem with so-and-so' because it bothers him that a woman is talking back to him or a woman seems to know this subject better than he does, or whatever."

Caltrans Director Adriana Gianturco⁸

California had a history of road building going back into the 19th century. With the development of the automobile, particularly in the early 20th century, road building as a public endeavor became an important state and local function. In that period, passenger rail transportation was mainly in private hands, whether at the long-distance level (railroads) or public transit level (streetcars and interurban railways), albeit with public support and regulation. But road construction and maintenance were seen as government responsibilities.

⁷Reagan was by that time focused on winning the Republican nomination for president in 1976. He had tried and failed to pass a ballot initiative that would have limited state spending by a complicated formula. Had he succeeded, he would have touted his California achievement as a model for the federal government. Reagan failed to take the Republican nomination away from incumbent Gerald Ford. His plans to win the presidency were thus delayed until 1980.

⁸Quoted in Claudia Luther, "Gianturco – A 6-Year Drive in the Fast Lane," *Los Angeles Times*, March 1, 1982, p. B1.

California had evolved a system in which a state Highway Commission (created in 1911) would designate projects to be undertaken. Then an administrative agency – the Department of Public Works – would carry out the design and engineering plans needed using internal personnel, and the project would be carried out through government contracts with private firms. The Highway Commission was focused on what its name implies – highways.

Given its charge, the Commission didn't consider other forms of ground transportation since intercity rail was private (or later federal – when Amtrak came along). Another bureaucracy – the Department of Aeronautics – looked after air transport. Finally, local transit was either private or, increasingly, in the hands of local government agencies. These separate arrangements and jurisdictions, it came to be felt by the early 1970s, did not foster holistic thinking about the overall transportation *system*; i.e., how the pieces fit together and what the best alternatives were.

Under Governor Reagan, the Department of Public Works and the Department of Aeronautics were merged into the Department of Transportation in 1972. In concept, the new agency – nicknamed Caltrans – was supposed to embody the holistic view of all forms of transportation. However, the Highway Commission remained in place and the separate entities within the larger Caltrans agency went on with business as usual. Moving boxes around on an organization chart does not necessarily change how actual work is carried out and, in the Caltrans case, it didn't.

Caltrans remained largely a highway-focused and engineering-dominated entity. Engineering, in turn, as it remains today, was a heavily-male occupation, including the specialty of civil engineering. California, and Caltrans, had some exceptions. Drivers today on the elaborate interchange between the Santa Monica and San Diego freeways in West Los Angeles may notice that the structure is named for its engineer/designer, Marilyn Jorgenson Reece. It has been so-named since 2007, three years after her death.⁹ But the engineers at CalPERS – male and female – viewed their role dealing with highways; they were not likely to be eager to report to a woman who had a wider view of what the word “transportation” in the new Department of Transportation was supposed to imply.

Jerry Brown, as governor in his first iteration (1975-1983), prided himself in putting women in prominent positions. And, as noted, he liked to make unorthodox appointments. Putting a non-engineer and a woman in charge of Caltrans was certainly unorthodox. Adriana Gianturco, his choice in 1976 to head Caltrans, had a background in urban planning, not civil engineering or even in highways. She was not an orthodox choice just from that perspective.

⁹Another notable woman was Lois Cooper, an African-American who became an engineer and project manager at Caltrans. See Oral History: Lois Cooper, Society of Woman Engineers Archive, Walter P. Reuther Library, Wayne State University, 2005. Available at http://ethw.org/Oral-History:Lois_Cooper.

It is true that Caltrans *was* a relatively new agency when Gianturco was appointed and thus didn't have a long history. Nonetheless, it was formed out of older agencies which retained their organizational cultures. Having a woman as leader, one with a past as a journalist and with an academic planning background, was a culture shock. Moreover, Gianturco was interested in transportation *alternatives* to highways – mainly rail alternatives – yet another shock.

Adriana Gianturco was born in Berkeley but was raised mainly on the East Coast.¹⁰ She received her BA from Smith College and later received a master's in economics from UC Berkeley. There she encountered Jerry Brown, then a student at Berkeley after he had dropped out of seminary training to become a Jesuit priest. It was apparently that encounter and friendship that ultimately led to Gianturco's appointment at Caltrans years later.

Gianturco, after obtaining her Berkeley degree, spent some time at a kibbutz (communal farm) in Israel, visited other countries in the Middle East, and found a job in Paris as a journalist for *Time* magazine. She again encountered Jerry Brown who had gotten a job at NATO, then headquartered in Paris. Gianturco subsequently came back to Berkeley and wrote for the English-language section of a Chinese-American newspaper. She began a PhD program in urban planning at Berkeley but became disappointed in the curriculum and eventually transferred to Harvard. While in the Boston area, she worked for a nonprofit consulting firm and co-authored a report on the local Latino community.¹¹ Later she worked for an agency of the Massachusetts state government.

When Jerry Brown was elected governor in 1974, he invited Gianturco to work for the California Business and Transportation Agency. But she left her position there and went back to Boston to finish her PhD at Harvard. In January 1976, she married John L. Saltonstall Jr., a partner in a Boston law firm and a former member of the Boston city council. Saltonstall was a member of a prominent "Boston Brahman" family.¹² Before Gianturco's dissertation could be finished (it never was), Brown asked her to come back as director of Caltrans, which had been headed on an acting basis by a holdover appointee from the prior Reagan administration. Taking the Caltrans job, which she did, meant that for a time she would be commuting between coasts to be with her new husband.

As noted, the California legislature under Governor Reagan had created Caltrans with the notion of taking a broader view of transportation. The buzzword was "multimodalism," the idea

¹⁰ Adriana Gianturco, Oral History Interview, Conducted in 1994 by George F. Petershagen, California State University-Sacramento, for the California State Archives, State Government Oral History Program. Available at <https://archive.org/details/oh95-1-gianturco>. The biographical information that follows is largely from this source.

¹¹ Adriana Gianturco and Norman Aronin, "Boston's Spanish Speaking Community: Findings of a Field Study," Action for Boston Community Development, Inc., 1973.

¹² They were later divorced. John Saltonstall died in 2007. The phrase "Boston Brahmin" refers to the wealthy elite of the Boston area.

that transportation was more than just cars on roads, and that state policy should encompass the larger vision.¹³ So, given that history of Caltrans' creation, it might be assumed that there would be legislative support for a director, such as Gianturco, who shared the wider transportation viewpoint.

Politics, however, is never simple. There was still a strong highway orientation in the legislature, especially among some key members. In the era before legislative term limits, incumbents remained in office for long periods and developed attachments to, and expertise in, particular policy areas. One example was State Senator Randolph Collier, the same Collier whose name was on the 1947 Collier-Burns Act that created the California freeway system. Collier immediately announced his opposition to Gianturco's appointment, fearing the new director – as a Jerry Brown appointee – would not be sufficiently road-oriented.¹⁴ Of course, no one had clear knowledge of Gianturco's orientation as a new appointee. Another state senator, for example, James R. Mills of San Diego, worried that Gianturco wouldn't be sufficiently pro-transit.¹⁵

Nonetheless, Collier's opposition was a Big Deal, since he was Mr. Freeway in the legislature. He claimed that Gianturco didn't even own a car – which wasn't true. In a wire service news story that ran in the *LA Times* on opening day of the Diamond Lanes, she refuted his no-car claim, but either a typo or a misquote had her saying that the car she did own was a 1939 Plymouth. A 1939 Plymouth would have been an ancient vintage in 1976. So instead of being a non-car owner, a sin in Collier's eyes, she appeared instead to be an oddball who drove an antique.¹⁶ (The actual car she drove was a 1972 Plymouth.)

When Gianturco first accepted Governor Brown's invitation to head Caltrans, she was still in Boston and wanted to take a month off before taking on her new role. Brown's representatives agreed to the delay, and the original plan was for her to start sometime in April 1976. But she suddenly received a phone call saying that Caltrans was initiating a Diamond Lane project on the Santa Monica Freeway on March 15, a project whose planning had begun in the Reagan administration. The caller told her it was important for her to be on the job when the Diamond

¹³Alex Karner, "Multimodal Dreamin': California Transportation Planning, 1967-1977," *Journal of Transportation History*, June 2013, pp. 39-57. Available at <https://www.researchgate.net/publication/258111116>.

¹⁴In her 1994 oral history, in the section about Collier's opposition, Gianturco misdates the Collier-Burns Act as 1948 instead of 1947, suggesting she had never been steeped in freeway lore. (See pp. 170-171.)

¹⁵Gianturco oral history, p. 177. Mills is identified with the effort to establish the San Diego light rail system, especially the "Tijuana Trolley." Mills had early concerns about greenhouse gas and wanted California to turn toward transportation alternatives to the automobile. James R. Mills, "A Philosophical Approach to Legislative and Election Realities, 1959-1981," oral history, 1982, pp. 98-101. Available at <https://archive.org/stream/assembstategovof00morrrih#page/n0/mode/2up>. (Click to Mills interview.)

¹⁶"Collier to Fight Approval of New Caltrans Chief," *Los Angeles Times*, March 15, 1976, p. C5; Gianturco oral history, pp. 352-353.

Lanes opened. As a result, she started work as director of Caltrans on the opening day, the ominous Ides of March.

The Ides of March didn't go well for Julius Caesar, as Shakespeare's play makes clear. And things didn't go well for Gianturco, either. In that pre-internet era, the *LA Times* put out a morning edition and a late final edition; the latter included news of earlier in the day. The front page of the *Times* in the late final edition of March 15, 1976 featured a banner headline reading **"CHAOS ON A FREEWAY."**

The non-Diamond Lanes were jammed with angry commuters, who either stared in annoyance at the largely empty Diamond Lanes or tried to use them illicitly and were ticketed by the Highway Patrol. Buses on new freeway routes designed to take advantage of the Diamond Lanes were reported to be largely empty. The one bright spot noted was that drivers in non-Diamond Lanes were courteously allowing diamond-eligible vehicles to cross the freeway, so they could travel from on-ramps to the left-most special lane.¹⁷ (Later in the experiment, however, folks were not so nice; nails were spread on the Diamond Lanes by angry motorists.)

There had been full-page ads in the *Times* before the Diamond Lanes opened explaining their use and encouraging carpooling or bus use. Caltrans had handed out brochures at on-ramps with explanations and information. An article appeared in the *Times* on March 11 with details of the new system. The fast lane in both directions of the Santa Monica freeway would be reserved for cars with three or more passengers and for buses during rush hours: 6-10 a.m. and 3-7 p.m. A Caltrans official conceded that the first few days might be a problem during "a transition period," but expected that commuters would soon learn and adapt. "People adjust pretty fast," he prognosticated.¹⁸

Not all officials were so sanguine. The day before the Diamond Lanes were to open, an official of the California Highway Patrol predicted a 10-12% increase in accidents due to congestion on the non-Diamond Lanes. An LA City official predicted that added congestion on city streets caused by motorists who abandoned the freeways would increase accidents there by a similar number. And there was concern about accidents caused as vehicles eligible for the Diamond Lanes had to cross the non-Diamond Lanes to get into them.¹⁹

¹⁷ John Kendall, "CHAOS ON A FREEWAY: New System Jams West Side Traffic," *Los Angeles Times*, March 15, 1976, pp. A1, A3.

¹⁸ Barbara Riker, "Concern Over Diamond Lane: Freeway Drivers Fret," *Los Angeles Times*, March 11, 1976, pp. 1, 10.

¹⁹ Ray Hebert, "Controversial Experiment: Freeway Car Pool, Bus Lane Will Open Monday," *Los Angeles Times*, March 14, 1976, pp. A1, A3, A8.

Conflict Diamonds

"We are beginning a process of deliberately making it harder for drivers to use freeways."

Secretary of Business and Transportation Donald E. Burns,
speech delivered May 1975²⁰

Due to the timing of her appointment, the Diamond Lanes issue became intimately connected with Gianturco. Yet the coincidence of her leadership with opening day of the Diamond Lanes had occurred by accident. The project was developed under Governor Reagan to comply with the federal Clean Air Act, which required plans to control air pollution from both stationary and mobile sources.

Originally, the Diamond Lanes were supposed to open June 15, 1975. Had that starting date been kept, the entire episode would likely have begun and ended under the prior interim leadership at Caltrans and before the Gianturco appointment. However, a bus strike at the Rapid Transit District (RTD), a predecessor agency to today's MTA, caused the start date to be delayed until March 15, 1976.²¹ Buses, of course, would be prime users of the Diamond Lanes as the ultimate in high occupancy vehicles; they were dubbed "Diamond Lane Expresses."²² So starting during a bus strike would have made no sense.

Writer Joan Didion – a chronicler of things Los Angeles – was willing to omit Gianturco's name in describing the Diamond Lane episode. She just blamed the sorry outcome on generic government "bureaucrats" with naïve expectations about the behavior of LA's motorists.²³ Other observers of a more conservative persuasion were less kind. Referring to the Diamond Lanes, William F. Buckley Jr. described Gianturco as *"an aging hippie carpetbagger from Massachusetts... in blue jeans and bare feet."*²⁴ (Gianturco was 36 at the time of her appointment and photos of her on the job show only appropriate attire.)

But not only conservatives disparaged Gianturco. In a 1994 interview, Zev Yaroslavsky, who was a member of the LA City Council during the Diamond Lane implementation, described Gianturco, even at that late date, in unflattering terms. He called her *"a woman so arrogant that she tried to tell us it was midnight when we could see with our eyes it was high noon."*²⁵

And despite the fact that the Diamond Lanes were planned before Gianturco arrived on the scene, she became so identified with the lanes that later tellings incorrectly credit (or discredit)

²⁰Quoted in Ray Hebert, "Diamond Lanes – Let Motorists Howl," *Los Angeles Times*, March 26, 1976, p. A3.

²¹Charles P. Hobbs, *Hidden History of Transportation in Los Angeles* (History Press, 2014), p. 160.

²²Joan Didion, *White Album* (Farrar, Straus and Giroux, 1979), p. 81.

²³Didion, pp. 79-85.

²⁴Quoted in Chip Jacobs and William J. Kelly, *Smog Town: The Lung-Burning History of Pollution in Los Angeles* (Overlook Press, 2008), p. 264.

²⁵Quoted in Levine, op. cit.

her with their creation. For example, a profile of Jerry Brown in the *Los Angeles Times*, when he ran for his third term as governor in 2010, incorrectly states that she “transformed the fast lanes on the Santa Monica Freeway into ‘Diamond Lanes’ for carpoolers.”²⁶ What is true is that after the Diamond Lanes episode, future HOV lanes were always *additions* to an existing freeway and were not “transformed” from (taken away from) the lanes already there.²⁷

Gianturco arrived, in short, at the worst possible time for a new director. Although she supported the concept of Diamond Lanes and – more generally – alternatives to conventional freeway driving, she hadn’t been part of the planning. Whether, if she had been part of the planning, the project would have gone differently is another matter, of course. She had little experience running a major agency. And she was coming into an organization that, while officially relatively new, was staffed by folks who were highway oriented and who had developed their thinking in the era of large-scale freeway construction.

Gianturco’s first day on the job, the opening of the Diamond Lanes, had not gone well for Caltrans. The reports in the news media were of jammed lanes, long commutes, accidents, and spillovers of congestion into local streets. Caltrans apparently counted fewer vehicles with three or more passengers on the Santa Monica Freeway than had been counted *before* the Diamond Lanes went into effect. Apparently, some instances of white paint thrown on the diamonds were reported. Caltrans officials indicated that it might take three weeks before a “clear picture” of the effects of the Diamond Lanes could be determined.²⁸

The First Two Weeks

“If ever a gambling man were going to bet on a revolt by the citizenry of Los Angeles, the start of the Santa Monica Freeway Diamond Lane last week would have been the proper moment.”

LA Times Writer Barry Siegel²⁹

The *LA Times*, a few days before opening day, had run an article noting that drivers were already concerned about the impending change.³⁰ Moreover, the photos included with the

²⁶Evan Halper, “Election 2010: Jerry Brown was a young man on his own path; He forged a deal with farmworkers and stood by as property taxes ignited Prop. 13,” *Los Angeles Times*, October 30, 2010, p. A1.

²⁷Juan M. Matute and Stephanie S. Pincetl, “High-Occupancy Vehicle Expansion through Lane Conversion rather than New Construction,” California Center for Sustainable Communities at UCLA, Petroleum Policy Brief Series, 2013. Available at <http://next10.org/sites/default/files/10%20High-Occupancy%20Vehicle%20Lanes.pdf>. In states other than California, there have been some instances of changing an existing lane to HOV use. In California, the only such take-away was the temporary transformation of existing lanes to HOV lanes after the Northridge earthquake mentioned earlier.

²⁸Ray Hebert, “Freeway Experiment Jams Traffic, Angers Motorists,” *Los Angeles Times*, March 16, 1976, p. B1, B3.

²⁹Barry Siegel, “Lane Shall Not Close by Congestion Alone,” *Los Angeles Times*, March 22, 1976, p. E1.

³⁰In this section, we use the *LA Times* for the chronology of events. Rather than full footnotes, we give the date of the article or editorial as a citation. The articles and editorials can be found through the ProQuest Historical Newspapers database.

article showed traffic signs that seemed to suggest that two or more vehicle occupants were needed for Diamond Lane eligibility, when in fact three or more were necessary. (March 11, 1976) The buildup in the *Times* to the opening described the rules of the new system, but the plan was denoted as “controversial.” (March 15, 1976) In short, the public was primed for problems even before opening day.

When the opening day finally arrived, the *Times* reported that commute times for those not eligible for the Diamond Lanes had doubled. While carpoolers who did qualify were ecstatic about their quick trips, the vast majority of motorists had only unkind things to say about the new system, both in news report quotes and in letters to the editor. The fact that a Caltrans spokesperson spoke about things “going pretty smoothly” despite the resulting traffic jams must have been galling to those commuters. (March 15, 1976)

By the next day, although the *Times*’ headline was no longer “Chaos on a Freeway,” the comments of motorists followed the same pattern. And the front-page photo in the *Times* showed three jammed lanes of traffic with a largely empty Diamond Lane. Scofflaws using the lanes without the requisite number of passengers were noted in the report; presumably, not all of them were caught. (March 16, 1976) In any case, the California Highway Patrol did not issue tickets to scofflaws for the first three days of the project, just warnings. (March 19, 1976)

A week after the opening day, a front-page “analysis” by *Times* reporter Ray Hebert used words such as “fiasco,” “ill-conceived,” and “confusion.” Accidents were said to have “soared.” (March 23, 1976) Although Hebert was not the only *Times* reporter covering the Diamond Lanes, he was assigned to do evaluations – which generally were negative.³¹ In sharp contrast to the Hebert analysis, the state’s Business and Transportation Secretary Donald E. Burns was arguing at the time that the Diamond Lane project had “worked like a charm.”³² (March 20, 1976)

Although the balance of the *Times*’ coverage after the first week was negative, its editorial position was initially more nuanced. The *Times*’ editorial of March 21 cited an on-ramp configuration as an obvious problem and said that Caltrans had not corrected the situation, despite the evidence.³³ But as far as the overall new system was concerned, the *Times* officially counseled readers that “it deserves more time to prove itself.” Radio hosts were not so kind. Even before the Diamond Lanes opening day, one radio personality staged a mock funeral for the fast lane. (March 21, 1976)

³¹Hebert had a long career at the *Times*, running from 1951 to 1988. He was designated as the “urban affairs writer” for the paper. He died in 2007. “Ray Hebert, 86; Times reporter one of the first to cover city planning,” *Los Angeles Times*, May 12, 2007. Available at <http://articles.latimes.com/2007/may/12/local/me-hebert12>.

³²Burns had a legal background. He was later assistant general counsel to the Federal Home Loan Bank Board which played a role in the savings and loan financial crisis of the 1980s.

³³Five days later, Caltrans was reported to have modified the on-ramp. (March 26, 1976)

By March 24, the *Times* reported that there were plans for a “fine tuning” of the new system. County Supervisor Pete Schabarum pushed for a continuing survey of the Diamond Lanes. He indicated if such a survey were not put in place, he would recommend cancelling the County subsidy that had been given to the Diamond Lane Express buses. LA Mayor Tom Bradley opined that the project had “looked good on paper,” a statement that could be interpreted as an indirect comment that it didn’t look so good in practice.

Note that in the early stages of the Diamond Lanes, Gianturco – brand new on the job – was not prominently in view. She did not become the face of the lanes initially. To the extent that state officials were cited in news accounts, they were either low-level Caltrans engineers or Business and Transportation Secretary Burns. Burns had earlier made clear that extension of the freeways was not a priority of (new) Governor Jerry Brown. *“This administration has no intention of participating in the construction of any more Cadillac-commuter systems that have very little chance of providing adequate benefits.... As for starting new freeways, I just do not see that happening.”*³⁴ However, Governor Brown tried to stay above the Diamond Lane fray as much as possible.

Times reporter Hebert on March 26 wrote that the policy of Caltrans toward motorists on the Santa Monica Freeway could be summed up as “like it or lump it.” Secretary Burns was quoted by Hebert as saying in a speech in San Francisco that “we are prepared to suffer considerable public outcry in order to pry John Q. Public out of his car.” Burns subsequently was reported to have regretted that wording, but to have stood by the “basic tenor” of what he said. The idea was to create congestion on the freeway so that the buses would be more advantageous to commuters. Hebert reported that the Santa Monica Freeway project was just the first being planned; Diamond Lanes would be coming to other freeways. Meanwhile, motorists were beginning to sport bumper stickers proclaiming “No Diamonds,” some of which were being distributed at on-ramps by a UCLA student.

Ten days into the program, according to Hebert, Secretary Burns was beginning to backtrack: “I have not been entirely pleased... I am becoming somewhat skeptical about the project’s ultimate success.” (March 27, 1976) If things didn’t improve in April, perhaps the project would be dropped, he indicated. Burns soon took the position that he was somehow surprised by the implementation of the Diamond Lanes in mid-March and had thought the project was “dead.” The problem, he said, was that Caltrans was a “gigantic bureaucracy” which led to communication problems. (April 1, 1976) However, there were contradictory reports about what Caltrans was planning. What is now the Century Freeway was in the design stage at the time – despite Burns’ earlier suggestion that there would be no new freeways. But reports

³⁴Quoted in Brian D. Taylor, “Why California Stopped Building Freeways,” *Access*, Fall 1993. Available at <https://www.accessmagazine.org/fall-1993/why-california-stopped-building-freeways/>.

emerged that perhaps the Century Freeway would be developed with *only* Diamond Lanes, at least during rush hours.

April Showers

"People ought to have faith that we are not trying to be perverse."

Business and Transportation Agency Secretary Donald E. Burns³⁵

Gianturco was beginning to climb into public view as a supporter of carpooling and Diamond Lanes. When the Legislative Analyst's Office (LAO) suggested that a state program to encourage carpooling was having little impact, Gianturco testified in a legislative hearing that cutting back the program would be a mistake. She indicated that some of the program's funds could be diverted into more Diamond Lane projects. (March 30, 1976)

Gianturco also met with local officials in early April saying that the project needed another six to eight weeks of evaluation and that Governor Brown agreed with her on that point. The meeting itself was private – journalists were not allowed – and the local officials invited complained it had been called at the last minute. LA County Supervisor Kenneth Hahn said he told Gianturco that her program was a "flop" and that waiting six to eight weeks was too long.³⁶ Moreover, he "resented" the fact that the County was bearing the expense of subsidizing the Diamond Lane Express buses. (April 6, 1976)

Hahn was not the only official having issues with Caltrans. LA City Traffic Engineer S.S. Taylor said he had been threatened by an unnamed Caltrans functionary because of his (Taylor's) complaints about traffic problems caused by the Diamond Lanes on city streets. Although Taylor's complaints were denied by the local director of Caltrans, LA City Councilman Zev Yaroslavsky – pushing for an immediate end to the Diamond Lanes – termed the alleged threats "outrageous." (April 9, 1976) It might be noted, however, that Yaroslavsky did not initially oppose a project on the San Diego Freeway that involved *adding* a new Diamond Lane rather than creating one from an existing lane. (April 29, 1976) That opposition was to come later.

Eventually, Governor Brown was pulled into the controversy over the Diamond Lanes. When the state assembly threatened to pass a resolution demanding an immediate halt to the project, Brown called Assemblyman Herschel Rosenthal – the leader of the effort – and got the resolution withdrawn.³⁷ However, the resolution soon came back and was approved in

³⁵ Quoted in Ray Hebert, "Live With Diamond Lanes, Burns Advises," *Los Angeles Times*, April 14, 1976, p. C4.

³⁶ Hahn was the father of current LA County Supervisor Janice Hahn and former LA City Mayor James Hahn.

³⁷ Rosenthal represented West LA and parts of the San Fernando Valley. He served in the assembly and then the state senate from 1974 until 1998. Rosenthal died in 2009.

watered-down form. The watered-down version requested Caltrans either to halt the project *or modify it*.³⁸ (April 23, 1976)

While an assembly resolution could have had no legal effect, two lawsuits by the Pacific Legal Foundation – a conservative group – had the potential to halt the Diamond Lanes. One in federal court sought to halt funding for the project. Another in state court claimed that there had not been an adequate environmental review for the project. Among the defendants in the state suit were Burns and Gianturco. (April 10, 1976) Ultimately, it was legal action, not legislative or administrative, that killed the lanes. However, the two courts were unwilling to issue immediate injunctions to stop the project. Instead, the court cases simmered in the background as hearings were held.

Burns, at this point, was becoming fuzzy about the evaluation date for the lanes, saying he was “not locked into any time period.” (April 14, 1976) And unlike County Supervisor Hahn who wanted to shut down the lanes immediately, Supervisor Edmund D. Edelman called for patience. (Letter, April 14, 1976) LA City Councilman Marvin Braude suggested curtailing the hours in which the Diamond Lanes operated and cutting the required vehicle occupants from three to two. (April 15, 1976) The City Traffic engineer who had complained of Caltrans’ threats backed Braude’s call to move the eligibility level down to two. He also announced that the city would remove traffic signs that had been put up to aid the Diamond Lanes project. (April 20, 1976) Finally, he indicated he would testify against the project in court if the move to two-occupant eligibility were not implemented. (April 23, 1976)

Meanwhile, there were more efforts to encourage carpooling and bus use. Some increase in bus use was reported, although when free bus tickets were handed out, few of them were actually used. A free “Commuter Computer” system was established to match persons who might form a pool. The *Times* noted, however, that the fellow running the matching operation did not carpool himself. And the usage of the matching system was well below what was planned. Most of the users came from big aerospace and other companies or government agencies that had independently encouraged employee utilization. (April 25, 1976) Caltrans reported, however, that carpool use had doubled from the level before the Diamond Lane project, and bus use had roughly tripled. (April 28, 1976)

May Flowers Into June

“Give it time.”

Statement on button worn by
Caltrans Director Adriana Gianturco³⁹

³⁸House Resolution No. 77, April 23, 1976.

³⁹Quoted in Ray Hebert, “Diamond Lane’s Morning Use to Be Cut an Hour,” *Los Angeles Times*, May 7, 1976, p. A6.

By May, Gianturco was talking about giving the project a full demonstration year. The numbers, she said, “look good.” She indicated that she would meet with local officials in mid-May for further evaluation. But no plan to lower the vehicle occupancy criterion from three to two was in the works. (May 1, 1976) Some flexibility, however, appeared in that Caltrans announced that the hours for Diamond Lane operation would be reduced starting May 17 – at least in the morning – from 6-10 a.m. to 6:30-9:30 a.m. Gianturco explained that there was little use of the Diamond Lanes during the two half-hour periods that would be eliminated. (May 7, 1976) Shortly before the hours reduction went into effect, the state senate confirmed Gianturco’s appointment as head of Caltrans.

There was a lessening of public discourse about the Diamond Lanes by early June. Gianturco proclaimed the Diamond Lanes to be a symbol of “environmentally responsible transportation.” *Times* reporter Hebert, however, noted continued complaints by motorists about “Caltrans’ obstinance.” Yes, bus ridership was up, but the absolute levels were “disappointing.” The same was true about carpools. Moreover, the *Times* ran a piece questioning Caltrans’ data. It sent its own observers to the freeway and found more cheaters (single-occupant cars in the Diamond Lane) and fewer carpools than Caltrans was reporting. Caltrans said its car counters were more expert than those of the *Times*. (June 1, 1976) Early June also saw an organized vehicle protest. A caravan of “up to 50” ineligible cars moved into the Diamond Lane in the morning of June 3rd led by a hearse; twenty drivers were ticketed. (June 4, 1976)

The *LA Times* editorial page, as noted earlier, had first urged a wait-and-see attitude when the Diamond Lane project began. But on June 11th, the *Times* ran an editorial entitled “A Total Flop.” It said Gianturco’s claim that the lanes stood for environmentalism were “absurd.” Due to congestion, the *Times* declared, there had been no demonstrable net cut in pollution. The increase in carpooling and bus ridership was too limited to matter. Street traffic had worsened. Congestion had been increased. Caltrans was “mulishly obstinate” in ignoring these facts. Governor Brown should step in and order an end to the Diamond Lanes.

There should be an investigation into the competence of Caltrans, in the *Times*’ view, before any other freeways were the subject of its experiments. The next day, it was announced that the RTD would reduce bus service because ridership was below planned levels. Both the RTD and the Santa Monica Municipal Bus lines said they would need continued subsidy to keep the express buses operating. (June 12, 1976)

On June 16th, another *Times* editorial focused on the numbers. It cast doubt on the accuracy of Caltrans’ data. But even taking those data at face value, the net effect, it said, were that fewer cars were using the freeway than before the Diamond Lanes (which it interpreted as less freeway efficiency), and more cars were using local streets. Bus ridership had increased – but

was well below planned levels (leading to a drop in buses provided). It wasn't clear what the net effect on air pollution was.

The editorial noted Caltrans had claimed that gasoline usage had fallen by 6%, but the *Times* said it found the claim dubious. Caltrans' figures showed some increase in carpooling, but that increase had occurred in the first couple of weeks. Since then, the numbers were flat, suggesting that further improvement was unlikely. Caltrans was "dishonest," "stubborn," and unable to admit that the Diamond Lanes were "clearly a failure."

On the same day those editorial comments appeared, the *Times* featured an article about Gianturco contradicting local officials who had labeled the lanes a failure. Meanwhile, Caltrans was apparently becoming fearful that its impending San Diego Freeway Diamond Lane project (adding a lane, not subtracting one) was becoming endangered by opposition to the Santa Monica Freeway project. Local officials were beginning to demand that the San Diego lane addition not be a Diamond Lane. (June 21, 1976)

The Auto Club of Southern California (ACSC) came out against Diamond Lanes *of any type*. ACSC could endorse preferential on-ramps for carpools and buses, but not preferential lanes. (June 22, 1976) And at a hearing on the lanes, LA City Traffic Engineer S.S. Taylor reported an accident fatality attributed to the Diamond Lanes.⁴⁰ (June 23, 1976)

Summertime and Uneasy Living

"Who ya gonna believe; me or your own eyes?"

Chico Marx⁴¹

Up until the summer, although Gianturco was increasingly cited in news coverage of the Diamond Lanes, she had not yet become the face of the project. But in response to the *LA Times'* critical editorials regarding the project, she published in the *Times* a lengthy op ed defense of the lanes on June 24th. She indicated that the Diamond Lanes were part of a larger pre-existing project. The Santa Monica component involved taking away an existing lane, whereas other related efforts – such as the El Monte busway – involved adding a new lane.

Gianturco disputed allegations that Caltrans' data were inaccurate and generally gave a positive interpretation of the department's data. She characterized opposition to the lanes as a "massive assault." If there was reluctance to carpool, it was because the opposition was holding out the hope that the project would soon be ended. In a separate article on the same day, Gianturco was quoted as saying that the Diamond Lanes had "great potential for conserving

⁴⁰The accident occurred on local streets but involved a woman who was on unfamiliar streets to avoid freeway congestion.

⁴¹Chico Marx pretending to be the Groucho Marx character in the Marx Brothers' movie "Duck Soup." See <https://www.youtube.com/watch?v=cHxGUe1cjzM>.

energy,” that the plan should not be attributed to Jerry Brown, and that “the outrage will diminish” eventually.

By this time, however, public opinions had hardened. And among users of the Santa Monica Freeway who were not in eligible carpools, there was no denying the resulting congestion they were experiencing. On the date Gianturco’s op ed appeared, State Senator Nate Holden of south LA introduced a resolution in the senate calling for immediate discontinuation of the Diamond Lanes.⁴² Gianturco subsequently wrote to the senate that “it would be premature to conclude that the project had failed.”⁴³

Although the *Times*’ published Gianturco’s defensive op ed, it also published – in the same edition – yet another anti-lane editorial entitled “Sin and the Diamond Lanes.” Essentially, the *Times* said it was all in favor of encouraging carpools, use of buses, more efficient cars, etc., but only through subsidy and positive encouragement. It opposed making the freeways more congested so that drivers were coerced into carpools and transit vehicles. Gianturco wrote a long letter to the editor in response (published on July 3rd). She characterized the *Times*’ position as a misguided “crusade against evil.”

Meanwhile, opposition to the Diamond Lanes on the San Diego Freeway was growing. Robert Datel, head of the Caltrans division for the LA area, conceded in a hearing that while the San Diego lanes were already a done-deal, the deal was “not irrevocable.” The LA City Council, prodded by Councilman Zev Yaroslavsky, pushed for the city attorney to determine if adequate environmental review of the San Diego Freeway plan had been done, and – if not – to file a lawsuit challenging the plan. (July 13, 1976) In effect, the Santa Monica Freeway experience was now spilling over into opposition to a very different project. By late July, the San Diego project – which had been scheduled to open a segment in September 1976 – was delayed until at least January 1, 1977. (July 23, 1976)

And court hearings on the federal lawsuit against the Santa Monica lanes soon got underway. (July 1, 1976) A smog expert testified at the trial that it was unclear whether the lanes helped or hurt air pollution, given available data. (July 7, 1976) Questions were raised about whether adequate environmental review had been bypassed. (July 8, 1976) A traffic engineer testified that half of accidents on the Santa Monica Freeway during Diamond Lane hours were in the second lane, i.e., the lane from which cars would enter and exit the preferential lane. (July 17, 1976) The implication was that Diamond Lanes caused car wrecks.

In one of his analyses for the *LA Times*, reporter Hebert described morale problems among engineers at Caltrans, quoting anonymous staff members. The lanes might have been a good

⁴²Senate resolution number 62.

⁴³Letter to Darryl R. White, Secretary of the Senate, dated July 14, 1976.

idea beforehand, but in practice they were undermining public confidence in the department, one was quoted to have said. Caltrans was itself reporting receipt of negative letters and phone calls from the public. Gianturco was quoted as saying that public officials should “do what *they think* is in the public interest,” (Italics added) with the implication that they should go ahead with plans the public mistakenly rejects. An anonymous Caltrans engineer confided that “most of us wish we were back building freeways.” (July 20, 1976)

On July 25th, a *Times* editorial noted Jerry Brown might want to take time off from his (first) campaign for the presidency and deal with the Santa Monica Freeway Diamond Lanes problem. One word from the governor, the *Times* noted, and the project could be killed, and should be killed. The *Times* cast more doubt on Caltrans data and pointed to an LA County study indicating that Santa Monica Freeway traffic had simply been diverted to local streets. Three days later, the Culver City city council addressed a demand to Gianturco for an end to the Santa Monica Freeway lanes and a ban on such lanes on other area freeways. (July 28, 1976)

Gianturco, however, did have a response to combat the negative spillover from the Santa Monica Freeway project to others. There had been plans to open the El Monte busway to carpools. She proposed accelerating the start-up date of the conversion, i.e., to convert it to a diamond lane by adding carpools to the buses. (August 8, 1976) In effect, she was offering a diamond lane to the public that added something to car-carrying capacity. As will be seen below, the offering was insufficient to blunt negative public attitudes.

A citizens’ group tried to post anti-Diamond Lane signs along the Santa Monica Freeway but was prevented by the California Highway Patrol from doing so in late July. (July 30, 1976) In early August, the LA city council passed a resolution 10-4 calling for an immediate end to the Diamond Lanes. Gianturco labeled the council’s resolution as “very irresponsible.” (August 4, 1976) A state assembly committee split 7-7 over a resolution that would require Caltrans to obtain legislative approval for any new Diamond Lanes. (August 5, 1976) As the federal trial continued, Caltrans admitted to having made statistical errors in the early days of the project. It said later data were correct but the admission further undermined Caltrans’ credibility, both with the public and the court. (August 7, 1976)

The End (Kind of)

“The freeway should return to the state it was in in early March.”

U.S. District Court Judge Matt Byrne⁴⁴

The Diamond Lane project occurred in an era in which there were big California controversies that suddenly disappeared. Busing for racial balance was a major controversy in Los Angeles

⁴⁴Quoted in Ray Hebert, “Diamond Lane Suspended,” *Los Angeles Times*, August 9, 1976, p. A1.

and roiled local politics. But then a court decision suddenly halted busing in 1981. Property tax bills kept rising and created a homeowners' tax revolt until Proposition 13 came along in 1978. Suddenly, the bills were cut and capped by initiative. And on August 8, 1976, the Santa Monica Freeway Diamond Lanes suddenly died after a federal district court decision that followed an eleven-day trial. Of course, sudden changes often have an aftermath, and the Diamond Lanes were no exception.

The crux of the court decision on the lanes was that Caltrans should have conducted an environmental review prior to opening the Diamond Lanes. Although Caltrans argued that such a review wasn't needed, the judge in the case rejected that position. While the judge ruled that the conservative Pacific Legal Foundation that had filed the lawsuit had no direct standing in the case on its own, he ruled that it *could* represent LA City Councilman Zev Yaroslavsky who did have standing. Technically, the end of the lanes awaited a formal signing of the order – a matter of a few days. But as soon as news of the decision was public, single-occupant cars started using the Diamond Lanes and the CHP said it wouldn't ticket the ineligible cars. (August 9, 1976; August 10, 1976) The Diamond Lanes effectively evaporated.

Caltrans responded to the court decision by indicating that it might appeal. But whatever the legal merits, the politics of having to revive a dead program meant that in fact there would be no zombie Diamond Lanes on the Santa Monica Freeway. The dead would stay dead. In any case, under the court order, the Diamond Lanes could not come back until required reviews under the California Environmental Quality Act (CEQA) and the federal Environmental Policy Act were completed. The diamond on-ramps – preferential access for multiple-passenger cars – *were* allowed to continue to operate and have done so ever since.⁴⁵

As it happened, the sudden death of the Diamond Lanes occurred while Gianturco was vacationing in Maine and was not immediately available for comment. (August 10, 1976) Several days later, she was quoted as saying Caltrans was "leaning towards" an appeal because Diamond Lanes were "worth fighting for." But a lawyer representing Caltrans indicated that seeking a stay of the district court's order while an appeal went forward was not practical – drivers would simply not obey. (August 13, 1976) And actually doing the environmental reviews required by the decision would take a year. The issue moved from the formal court to the court of public opinion in which Yaroslavsky and Gianturco debated on TV. After the TV taping, the two continued to exchange words, and Yaroslavsky accused Caltrans of "treating people like guinea pigs." (August 14, 1976)

⁴⁵For some time thereafter, ineligible motorists using the on-ramps who were ticketed were apparently able to have the tickets dismissed in court on the grounds that they were confused over which diamonds were voided and which remained in effect. See Robert Rawitch, "Driver Trumps CHP Over Diamond Ticket," *Los Angeles Times*, April 28, 1978, p. F1.

There was a push for “amnesty” for those ticketed for improper use of the Diamond Lanes. And in fact, the protesters ticketed in the earlier demonstration in which a hearse-led caravan moved into the lanes had their citations dismissed. (October 5, 1976) The signage related to the Diamond Lanes was removed by Caltrans to comply with the court order within a few days after the decision. But the diamonds that had been painted on the paving of the lanes were left to fade. (August 17, 1976)

From Santa Monica to San Diego

“It seemed to me that there – in the (San Diego) lane – was some concrete paid for by the people. So I just told them to open it. Instead of cutting a ribbon, I cut some red tape.”

Governor Jerry Brown⁴⁶

The real question – although perhaps not apparent to Gianturco at the time – was whether the adverse ruling on the Santa Monica Diamond Lanes (where lanes had been taken away) would affect situations such as the San Diego Freeway project (in which additional lanes were in the process of construction). And, again, the ultimate outcome might be more than a matter of just legalities; politics would play a role, too, in light of the Santa Monica Freeway fiasco. *Times* reporter Hebert indicated that, whatever Gianturco might have thought, unnamed planners at Caltrans understood that what had occurred on the Santa Monica Freeway would create bad vibes for projects such as on the San Diego Freeway. (August 15, 1976)

By October 1976, motorists on the San Diego Freeway could see the newly-constructed northbound lane through the Sepulveda Pass standing unused. Despite the lane’s availability, a debate ensued within Caltrans as to whether to open the lane as a Diamond Lane or just as an additional regular lane. LA City Councilman Zev Yaroslavsky charged that Caltrans was supposed to be consulting about the fate of the San Diego lanes with the community but had delayed planned meetings. He threatened another lawsuit. LA City Traffic Engineer S.S. Taylor – who had actively opposed the Santa Monica Freeway Diamond Lanes – also opposed using the new lanes on the San Diego Freeway as Diamond Lanes, as did County Supervisor Kenneth Hahn. (October 13, 1976; November 7, 1976)

Gianturco insisted on filing an appeal of the Santa Monica Freeway decision, so there could be no doubt where she stood on the San Diego issue. (October 20, 1976) Moreover, she argued that the San Diego lanes could not be legally opened except as Diamond Lanes. (November 18, 1976) In December, the LA City Council pushed for state legislation to force the San Diego lanes to open to all traffic. (December 15, 1976). And it hinted at litigation. The City Council pointed to the opening of some new lanes on the Hollywood Freeway as a precedent, but Caltrans argued that the Hollywood lanes were never intended as a Diamond Lane project. (December

⁴⁶Quoted in Ray Hebert, “No Time Wasted in Using Diamond Lane,” *Los Angeles Times*, February 1, 1977, p. 3.

18, 1976) Subsequently, the Southern California Council of Governments (SCAG) endorsed the City Council's position. (January 7, 1976)

Just as the Santa Monica Diamond Lane project was suddenly terminated by an external decision, so – too – did the San Diego controversy come to an abrupt end. But in the San Diego Freeway case, it wasn't a court that made the decision. In late January 1977, Governor Jerry Brown ordered the available San Diego lane opened to all traffic. Brown had toured the lane with Gianturco and then issued the order. (January 31, 1977)

Gianturco made the best of the situation by putting a personal greeting on a traffic sign that had been posted in connection with the opening: "Left lane now open. Adriana." The sign included a smiley face. (February 1, 1977) It's hard to imagine that, after being undercut by the governor who had appointed her and had brought her into the job on the day the Santa Monica Diamond Lanes opened, she could have been feeling very smiley. Gray Davis, then the governor's executive secretary, said there was no intention to fire Gianturco, despite calls from some members of the legislature to do so. And Brown claimed she had agreed with his decision to open the lane.⁴⁷ (February 3, 1977) But given the circumstances, what other choice did she have?

Looking Backwards

"After the Santa Monica experience, I would be very reluctant to take a lane away. That kind of decision cannot be made in Sacramento. We have the responsibility for operating the freeway system, but it's the local people who have to live with it."

Caltrans Director Adriana Gianturco⁴⁸

When we look back at the Diamond Lane episode, what lessons can be drawn? There is the obvious one that taking something away is likely to engender strong resistance, whereas adding something – even if it embodies a new concept – will be welcomed or, at least, will meet less resistance. And since the 1976 experience with the Santa Monica Freeway Diamond Lanes, preferential lanes and toll lanes have been of the added variety. The lane take-away experience on the Santa Monica Freeway is not something public officials would ever want to repeat.

But the Diamond Lanes episode has lessons for governance that go beyond traffic management. Jerry Brown in his first iteration as governor liked to be perceived as "different" from other politicians. And part of that difference was exhibited in appointments of non-traditional officials. It's true that offbeat appointments can bring new perspectives. In the Gianturco case, she represented the view that the era of freeway expansion was fading. She believed that one solution to the issue of transportation, in the face of a growing California population, was to

⁴⁷Davis was elected governor in 1998. He was recalled and replaced by Arnold Schwarzenegger in 2003.

⁴⁸Ray Hebert, "Ms. Gianturco: She's Still the Driver at Caltrans," *Los Angeles Times*, March 4, 1976, p. 1.

explore ways to use the existing freeway infrastructure more efficiently. A possible solution was to encourage more use of public transportation and of carpooling.

Certainly, Governor Brown believed in such approaches. And he saw in Gianturco someone who had similar views to his own. Despite his desire to be different, by the time Brown was in his first term as governor, he had significant knowledge of politics and the way government worked. After all, he had been brought up in a very political household. And before becoming governor, Brown had been elected California secretary of state. Before being secretary of state, he held local elected office on the LA Community College Board. Gianturco, in contrast, didn't arrive with the skill set of an elected official or even of a high-profile appointed official.

As director of Caltrans, as Brown surely must have known, Gianturco would be facing a freeway/engineering culture that would resist new priorities. Furthermore, Brown on one occasion noted that appointing women into traditionally male management position would itself lead to frictions. "Whatever men may say, it's very hard for them to take orders from a woman," he said.⁴⁹ Given that belief, Brown must have known that simply appointing Gianturco, and especially appointing her just in time to oversee a controversial new program, would mean she would face an especially challenging assignment.

Given Brown's evident conviction that she was the right person for the job despite the challenge and inexperience, he needed to give her substantial support. Simply not firing her when legislators demanded it, was not adequate. Gianturco served until Brown's second term came to an end. Yet Brown's support was evident only once during the entire Diamond Lanes episode, when he persuaded a legislator to water down a resolution – which had no legal effect – calling for the end of the lanes. And he let Gianturco go on with resistance to opening the unused San Diego lane for months before stepping in and, in effect, overriding her decision.

The failure of support was evident in a later episode when a new Transportation Commission was created to replace the old Highway Commission. Gianturco diligently set about interviewing potential commissioners for the governor to appoint. But Brown went off on his own, not consulting Gianturco, and selected what he considered to be interesting candidates. One of his original nominees was pop singer Helen Reddy, although he had to back off when the choice was ridiculed.⁵⁰ Two years after leaving office, Gianturco complained of the lack of support that Governor Brown had given her: "*Jerry Brown's style as an administrator was to*

⁴⁹Quoted in Richard Bergholz, "Brown Honored for Willingness to Appoint Women," *Los Angeles Times*, August 28, 1979, p. OC_A10.

⁵⁰Gianturco oral history, *op. cit.*, pp. 256-258. Reddy was later appointed to another commission.

*pretty much leave department heads alone, which gave you a lot of freedom; it also meant that when the going got tough, you were out there on your own.”*⁵¹

The net result of Brown’s aloofness from his choice to head Caltrans was to set back expansion of the use of Diamond Lanes – a concept which he presumably had favored. And it also led to the branding of Gianturco as an anti-freeway zealot, making her job more difficult from that point on. For the remainder of her tenure as director of Caltrans, the image haunted her. Republicans took advantage of that perception whenever some freeway issue arose. San Diego Mayor Pete Wilson, for example, cited Gianturco’s Diamond Lane episode in his (then) unsuccessful campaign for the Republican nomination for governor in 1978.⁵² She was “doing (Brown’s) bidding,” according to Wilson.

Of course, it’s hard to know whether more support from Brown would have made a major difference. Gianturco’s conflicts with local and state political figures were not confined to Republicans. She managed to upset Democrats – such as Yaroslavsky and Braude – as well. When (Democratic) LA Mayor Tom Bradley campaigned (unsuccessfully) for governor to replace Brown after his second term, he made a public commitment to “completion of our entire network of freeways.”⁵³ Bradley hoped thereby to differentiate himself from what the voters perceived as the Brown-Gianturco anti-freeway approach.

Given the fact that Gianturco continued to evidence a tin ear when it came to the politics of her office, one can wonder whether Brown’s decision to keep her in office for the remainder of his first iteration as governor, i.e., until his second term ended in January 1983, was a wise choice. When the mayor of Covina had trouble arranging an appointment with Gianturco to discuss construction of a freeway sound wall, she (the mayor) wrote to Governor Brown whose staff had to make sure the requested meeting occurred. An underling of Gianturco’s had earlier informed the mayor that “the director does not feel a meeting to discuss this matter would be productive.”⁵⁴ Obviously, an important component of the job of the Caltrans director was to say “no” to many pet projects of local officials. But there are ways to say “no” that can minimize friction. Taking a meeting with a local official who requests one is not a major burden. But rejecting such a meeting, in contrast, sends a message of arrogance.

And there was a tendency for trivia surrounding Gianturco’s internal activity to surface, a symptom of organizational dissatisfaction. A leaked memo from Gianturco to staff complaining

⁵¹Kim Murphy, “7 Years in the Fast Lane: Gianturco Recounts Slings and Arrows,” *Los Angeles Times*, April 25, 1985, p. OC_A1.

⁵²Quoted in Kenneth Reich, “Wilson Blames Freeway Lag on Brown,” *Los Angeles Times*, April 8, 1978, p. A20.

Wilson defeated Brown for the U.S. Senate in 1982. He ultimately became governor in 1990, serving two terms.

⁵³Quoted in Jeffrey Perlman, “Bradley Pledges Commitment to Build Freeways,” *Los Angeles Times*, November 17, 1981, p. B3.

⁵⁴“Letter to Brown Wins Hearing on Sound Buffer,” *Los Angeles Times*, February 27, 1977, p. SG7.

of the use of the word “data” as a singular became a matter of mirth. One letter to the editor in the *Times* said if the use of “data” was to be criticized, why not the use of “thru” rather than “through” on freeway signs?⁵⁵ (April 23, 1977) And with regard to signage, she decreed that all new freeway signs should have kilometer distances as well as miles.⁵⁶ In her 1994 oral history, Gianturco defended her grammatical concerns.⁵⁷ But the cause behind the fact that staff members were evidently leaking her memos seemed to escape her. Yet embarrassing leaks often occur because folks in the organization are unhappy with the leadership.

In an interview in the *Times* in July 1977, Gianturco still seemed surprised that elected officials, who had known about planning for the Diamond Lanes during the planning stage, had turned around and voiced opposition once the public began to complain.⁵⁸ But was that behavior really surprising? Would elected officials be expected to ignore angry constituents just because those officials had previously not anticipated the anger? During one of the several efforts to have Brown remove Gianturco, Brown let it be known that he considered her “to be one of his most innovative directors.”⁵⁹

But was being innovative the sole criterion for office? Gianturco seemed especially prone to friction with legislators. It showed up in periodic efforts in the legislature to cut her salary. Key legislators held up Brown’s appointment of a new Business and Transportation Agency head in 1981, hoping to pressure Brown to fire Gianturco or to pressure her.⁶⁰ On one occasion, they attempted to subpoena the governor, hoping to have her fired.⁶¹ (Brown ignored it.) Her own interpretation of such events was that legislators found it easy to blame her when local projects they favored were not okayed. “I am a convenient target,” she said.⁶²

Even the *LA Times*, whose editorials had skewered the Santa Monica Diamond Lanes, conceded that there was something to that view.⁶³ And there obviously was. But there were blind spots and interpersonal issues that hindered Gianturco. She was owed more mentorship from the governor than she got. But she also exhibited a slower learning curve on the job than one might have hoped for, even given the lack of effective gubernatorial support.

⁵⁵See the letters in the April 23, 1977 edition.

⁵⁶“Caltrans to Post Metric English Distance Signs,” *Oakland Post*, April 16, 1978, p. 5.

⁵⁷Gianturco oral history, *op. cit.*, pp. 323-326. In Latin, the singular of data is “datum.” But in common practice nowadays, “data” is often used as a singular in English. People often say “the data is available” rather than “the data are available.” Gianturco wanted staff to say “data are.” At present, grammarians seem to accept “data is,” although such usage may have been less acceptable during the period Gianturco was in office.

⁵⁸“What Lies Beyond the Diamond Lanes,” *Los Angeles Times*, July 17, 1976, p. L6.

⁵⁹Bert Mann, “Brown Says He Won’t Fire Gianturco,” *Los Angeles Times*, December 15, 1977, p. SG1. The nominee was Lynn Schenk. Schenk later became a top aid to Governor Gray Davis. She is at this writing a member of the Board of the California High Speed Rail Authority.

⁶⁰Claudia Luther and Tracy Wood, “Are Gianturco’s Days Numbered,” *Los Angeles Times*, April 8, 1981, p. B3, B24.

⁶¹Carl Ingram, “Brown Ignores Subpoena From Panel on Gianturco,” *Los Angeles Times*, February 10, 1982.

⁶²Quoted in George Frank, “Gianturco Says She’s Needed as Target,” *Los Angeles Times*, June 23, 1979, p. SD_A13.

⁶³Editorial: “Gianturco Vs. the Vigilantes,” *Los Angeles Times*, January 17, 1982, p. D4.

Aftermath

“She believed that the tooth fairy would come along and pay for a transit system, no matter what happened in terms of ridership.”

Governor Deukmejian’s Caltrans Director Leo Trombatore (successor to Gianturco)⁶⁴

As noted, Democratic candidate for governor in the 1982 election Tom Bradley sought to distance himself from what were perceived as the anti-freeway views of Brown-Gianturco. Not surprisingly, when Bradley narrowly lost to Republican George Deukmejian, the emphasis at Caltrans switched back to freeways, at least in principle. The new Caltrans director, Leo Trombatore, was a highway engineer – and a male – in keeping with pre-Gianturco traditional transportation governance. Presumably, his appointment was meant to signal a change in transportation policy toward what it once had been.

Trombatore had worked under Gianturco during her administration. But in her oral history interview in 1994, she complained that he had done “nothing but badmouth” her and her approach to transportation after he became director under Deukmejian.⁶⁵ In fact there was more limited funding available for freeway expansion in the Deukmejian era than in the past, even with the shift toward a freeway emphasis. When Jerry Brown made a political reappearance in the late 1980s as chair of the state Democratic Party, he noted that “Adriana Gianturco in her worst year built more highways than George Deukmejian in his best year.”⁶⁶

Her oral history in the mid-1990s brought out some additional insights. She apparently had resisted the idea of bringing in her own people and relied on the existing management hierarchy – a hierarchy which wasn’t necessarily receptive to her ideas.⁶⁷ While the fact that she was suddenly put on the job at the start of the Diamond Lane crisis would have hindered quickly developing her own staff, her later resistance to bringing in new key staff is puzzling. Had Governor Brown been more of a mentor, he might have advised her to act differently. Brown certainly saw the value in making appointments of people receptive to his agenda.

Her oral history also revealed the level of stress Gianturco felt from the criticism she received once her reputation as anti-freeway became cemented in the public mind – in many ways because of the Diamond Lane episode. She reported breaking down in tears at a meeting with the editorial board of the *Sacramento Bee* over what she viewed as an unfair news story that

⁶⁴Quoted in Evan Maxwell and Ronald L. Soble, “Freeways: Slowing Down vs. Gridlock,” *Los Angeles Times*, March 20, 1983, p. OC_A1.

⁶⁵Gianturco oral history, *op. cit.*, p. 481.

⁶⁶Quoted in Doug Willis, “Brown Tells GOP to Stop Blaming Him for Crime Problem,” *Los Angeles Times*, March 4, 1989, p. 4. Brown later dropped out of political view again, resurfacing in the late 1990s as mayor of Oakland.

⁶⁷Gianturco oral history, *op. cit.*, p. 410.

she was blocking a freeway in the Fresno area, thereby leading to more automotive fatalities. Apparently, she received death threats as a result of that article.⁶⁸

Gianturco criticized the priorities of the Deukmejian administration not long after she left office, so the fact that Trombatore, her successor, was antagonistic should not have been a surprise to her (although it apparently was).⁶⁹ But she largely disappeared from public view after her stint with Jerry Brown, although whenever Diamond Lane proposals came up, her name was resurrected. She remained in Sacramento but seems to have played no part in the administration of Jerry Brown during his second iteration as governor. Her last public sighting was as a plaintiff in a court case aimed at blocking construction of a new sports stadium in Sacramento during 2014-2015.

Gianturco's legal effort at blocking the stadium was unsuccessful. But there is some irony in that the anti-stadium court case was centered on the proposition that the environmental review for the project had been inadequate. Unfortunately for Gianturco, the courts involved disagreed with her contention. In the 1976 case of the Santa Monica Diamond Lanes, where Gianturco was the defendant, the charge was also made by the plaintiffs of an inadequate environmental review. But back then the court agreed with that position and the project was killed.

⁶⁸ Gianturco oral history, *op. cit.*, pp. 376-378.

⁶⁹ Adriana Gianturco, "Look at What They're NOT Doing With Our Gas Taxes," *Los Angeles Times*, May 17, 1983, p. C5.

Chapter 2

LA TAP: Evaluating the Customer Experience of Tap Water in Los Angeles

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California's recent experience with drought and water scarcity has increased consumer concerns on issues of water conservation and quality. Many government, nonprofit, and philanthropic organizations are prioritizing water management in their efforts to increase sustainability, access and cleanliness of supply. The question of water quality is of particular importance in Los Angeles.

Water delivered to homes by Los Angeles Department of Water and Power (LADWP), the largest provider of water in the Los Angeles region, is in compliance with all state and federal quality standards. However, inequities in customer experience with tap water persist. While some quality issues are due to external events that cause a temporary increase in contaminants, LADWP insists that most problems are caused by aging or poorly maintained pipes in customer residences. Such problems are outside of the utility's responsibility and control.¹

Our analysis demonstrates a gap between the public's perception of tap water and the utility provider's confidence in the safety of supply. By analyzing water quality and perception data, we propose a prioritized set of policy options to improve tap water quality as well as public understanding of tap water safety through the use of point-of-use filters, an education and persuasion campaign, reformatting customer water bills to emphasize safety investments and updates to on-premises plumbing.

Policy Problem

Current research indicates that a lack of consumer knowledge about the water system contributes to public concerns about water quality and safety. In Los Angeles, these concerns are exacerbated by the complex local system of water management and regulation. Without accessible information about the water system, many residents rely on personal perception to judge the safety of their tap water. Often, decisions about safety are based on sensory qualities of the water, such as color, smell and taste, rather than on empirical testing.²

The Los Angeles Department of Water and Power Annual Quality Report demonstrates that there is compliance with all federal and state regulations for water safety.³ Overall, LADWP has reported very few water quality issues over the past decade, and is - as required by law - transparent about where and when these violations have occurred.⁴ Analysis of available customer complaint data and associated water quality sampling from fiscal years 2016 and 2017 verify LADWP's claims of providing safe drinking water to its customers in most instances.

Despite testing which demonstrates that water meets safety regulations in LADWP's service area, some customers report dissatisfaction with their tap water. One survey conducted in 2017 found that an overwhelming number of residents (87%) in the Jordan Downs public housing project in Watts

¹ Joe Ramallo, in-person communication, November 14, 2017

² Jardine, Cynthia G., Nancy Gibson, and Steve E. Hrudey. "Detection of odour and health risk perception of drinking water." *Water Science and Technology* 40, no. 6 (1999): 91-98.

³ Los Angeles Department of Water and Power (2016) 2016 Drinking Water Quality Report

⁴ Ibid.

reported having brown or murky tap water.⁵ All residents surveyed in that study indicated that they purchase single-use bottled water, large containers of bottled water, or use a water-delivery service for their drinking and cooking needs.⁶ This finding is particularly alarming, as all residents housed in Jordan Downs are low-income and/or otherwise qualify for public housing.

Substituting away from tap water to purchased alternatives increases the cost of poverty for these individuals. This anecdote is not unique to Jordan Downs; customer complaint data from LADWP show multiple isolated reports of discolored or “dirty” water coming out of the tap. Even if water quality testing does not reveal dangerous levels of contaminants, most people are reluctant to drink water if it comes out of the tap discolored or with an unpleasant taste or smell.

There are individuals who do not feel comfortable drinking water from their tap due to individual preferences or a perception that their water is not safe, despite clean appearance and testing evidence that demonstrates otherwise. We are not as concerned with individuals who self-select away from using tap water and do not face financial constraints by purchasing alternatives as we are about low-income consumers. However, we believe our policy solutions can encourage broader public consumption of tap water by ensuring all customers have access to user-friendly information about water quality and safety.

Our analysis aims to close the gap between available information that shows water is safe throughout LADWP’s service area and consumers who do not drink tap water. We address this issue by determining if there is a problem with water safety or cleanliness (i.e., if water tests safe, but displays sensory qualities that are undesirable). Where LADWP tap water is safe to consume without additional treatment, we offer policy options to provide a more uniform customer experience with tap water across the service area and encourage public consumption of safe, clean tap water.

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) of 1972 (amended in 1986 and 1996) is a federal law that protects drinking water supplies across the United States and applies to all water actually or potentially designed for drinking water use in a public water system.⁷ The Act defines a “public water system” as one that provides “water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days a year.”⁸ The need for such regulation came from a nationwide study of community water systems, which found that

⁵ Jordan Downs Health Needs Assessment, Preliminary Findings. Jordan Downs Health Summit. Presented on June 3, 2017.

⁶ Ibid.

⁷ Office of Water (4606). 2004. “Understanding the Safe Drinking Water Act.” EPA 816-F-04-030. www.epa.gov/safewater.

⁸ US EPA, OW. 2015. “Information about Public Water Systems.” Collections and Lists. US EPA. September 21, 2015. <https://www.epa.gov/dwreginfo/information-about-public-water-systems>.

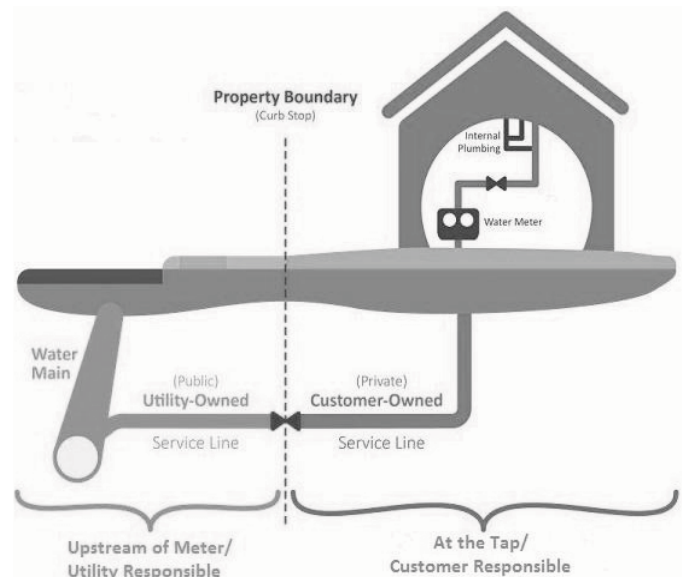
water quality related health risks resulted from poor operating procedures, inadequate infrastructure, and negligent management of water supplies in communities of all sizes.⁹

The SDWA authorized the Environmental Protection Agency to establish federal standards through National Primary Drinking Water Regulations. These regulations set enforceable primary maximum contaminant levels (MCLs) or mandatory treatment methods for removing such contaminants for all public water systems.¹⁰ In addition to creating primary MCLs, the act created a federal-state agreement which allows states and tribes to take primary enforcement and implementation authority (primacy) for drinking water programs.¹¹ California has primary enforcement responsibility for public water systems in the state.

Water Management in Los Angeles

Persistent drought, water shortages, and access issues across the state prompted California to become the first state in the nation to establish a human right to water with Assembly Bill 685. The bill added Section 106.3 to the state water code, which reads “every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.”¹² Despite progressive state-level water policy, most decision-making power for water-related issues remains at the local level.¹³

In Los Angeles County, there are 228 public and private agencies responsible for fulfilling the human right to water for more than ten million residents.¹⁴ Los Angeles County is primarily served by small private water systems, small mutual water systems, and municipal water systems.¹⁵ In the City of Los Angeles, the utility that delivers both water and power to customers is LADWP. It is responsible for water quality issues upstream of a consumer’s water meter, before the service line crosses the residential property line (see Figure 1). While the water



⁹ Tiemann, Mary. "Safe Drinking Water Act: Implementation and Issues." Congressional Research Service, Library of Congress, 2003.

¹⁰ Office of Water (4606). 2004. "Understanding the Safe Drinking Water Act." EPA 816-F-04-030. www.epa.gov/safewater. www.epa.gov/safewater.

¹¹ Tiemann, Mary. "Safe Drinking Water Act: Implementation and Issues." Congressional Research Service, Library of Congress, 2003.

¹² "Human Right to Water | California State Water Quality Control Board." 2018. .gov. March 16, 2018. https://www.waterboards.ca.gov/water_issues/programs/hr2w/.

¹³ Stephanie Pincetl, Madelyn Glickfeld, Deborah Cheng, Miriam Cope, Kartiki Naik, and Erik Porse, Kristen Holdworth, and Celine Kuklowski (2015). Water Management in Los Angeles County; a Research Report. Presented to the John Randolph Haynes and Dora Haynes Foundation. UCLA Institute of the Environment and Sustainability.

¹⁴ Deshazo, J. R., and H. McCann. "Los Angeles County Community Water System Atlas and Policy Guide, Volume I." UCLA Luskin Center for Innovation, Los Angeles, CA (2015).

¹⁵ Ibid.

provided to LADWP customers is below mandated MCL levels, poorly maintained infrastructure on the residential side of the service line may lead to quality and cleanliness issues at the tap.

Negative Externalities of Tap Water Substitutes

Despite stringent national and state level drinking water quality regulations, 50-80% of Los Angeles residents do not drink their tap water. Empirical and anecdotal evidence indicates that consumers substitute to bottled beverages (bottled water or sugar-sweetened beverages) when they distrust their tap water. Bottled beverages may offer consumers a convenient and seemingly low-cost alternative to tap water; however, environmental, as well as individual and community health consequences drive up the true cost of bottled beverages.

Bottled water production is more energy-intensive than tap water. Water bottle production requires 17 million barrels of water annually; this number increases to 50 million if the energy used to pump, process, and transport bottled water is taken into account.¹⁶ Bottled water production can require up to 2,000 times more energy than what is required to produce tap water.¹⁷ Additional environmental burdens come from the resources required to discard empty bottles. In the US more than 75% of these single-use bottles are discarded in landfills; when bottles are recycled, the carbon impact from the bottle's life is only reduced by 10%.¹⁸

Substituting away from tap water has additional and disproportional negative health impacts. Mistrust in tap water quality and consumption of sugar-sweetened beverages are higher among low-income non-Hispanic blacks and Mexican Americans.¹⁹ Research indicates an association between mistrust in the safety of local tap water and low intake of plain water among all non-whites, leading to negative health outcomes (e.g., obesity, poor mental health, type-2 diabetes).²⁰ Substituting to sugar-sweetened beverages has additional negative health impacts including higher rates of cavities and dental disease.

Policy recommendations in this article are based in part on a comprehensive literature review of scholarly sources, news articles, government, and industry reports which created a framework for understanding the current environment of tap water quality and perception in Los Angeles. Whenever possible, available quantitative data from LADWP and the City of LA was used to support qualitative analysis.

¹⁶ Schriever, Norm. 2013. "Plastic Water Bottles Causing Flood of Harm to Our Environment." *Huffington Post* (blog). July 29, 2013. https://www.huffingtonpost.com/norm-schriever/post_5218_b_3613577.html.

¹⁷ Zyga, Lisa. 2009. "How Much Energy Goes Into Making a Bottle of Water?" *How Much Energy Goes Into Making a Bottle of Water?* March 17, 2009. <https://phys.org/news/2009-03-energy-bottle.html>.

¹⁸ Patrick, Katie. 2016. "21 Reasons Why Plastic Bottles Ruin Everything: Recycling Won't Fix It, Zero Waste Will." *Huffington Post* (blog). November 17, 2016. https://www.huffingtonpost.com/katie-patrick/21-reasons-why-plastic-bo_b_12848918.html.

¹⁹ CDC. 2017. "Sugar-Sweetened Beverage Intake." Centers for Disease Control and Prevention. April 7, 2017. <https://www.cdc.gov/nutrition/data-statistics/sugar-sweetened-beverages-intake.html>.

²⁰ Onufrak, Stephen J., Sohyun Park, Joseph R. Sharkey, and Bettylou Sherry. "The relationship of perceptions of tap water safety with intake of sugar-sweetened beverages and plain water among US adults." *Public Health Nutrition* 17, no. 1 (2014): 179-185.

Physical Properties of Water that Affect Perception of Safety

Empirical evidence demonstrates that most residential users of tap water rely on personal perception of water safety and physical properties of water to make decisions about use.²¹ Individuals often abstain from drinking or using their tap water if it is discolored or presents a bad taste and/or smell.²² One qualitative study conducted in Ontario, Canada, showed that water having a brown tint, presenting a strong chlorine taste, and foul odor were the most common reasons users chose not to drink their tap water.²³ From this survey, over half of the participants opted to rely mostly on bottled water or used a water treatment device as an alternative to straight tap water.²⁴

Another study conducted in Canada determined that foul odor and color were often associated with perceived health risks of consuming tap water.²⁵ Among individuals who cited bad taste or smell as reasons for switching to alternative water sources (or, in some cases, boiling water prior to consumption), 67-90% of them believed that their tap water was unsafe.²⁶ This is congruent with anecdotal evidence from water health experts and customers, which makes it clear that sensory perception of water often influences the choice to either drink or not drink tap water.

The same study demonstrated that there is an inconsistent relationship between customer perception of water safety and actual health risks from high contaminant levels.²⁷ Data on 59 separate potential contaminants showed that most consumers cannot determine when there is an overabundance of a contaminant based on taste or smell alone.²⁸ Interviews conducted with members of LADWP's Water Quality Division further support this point. "It's what you can't see or taste that can kill you," one quality manager said.²⁹

Sociodemographic Factors that Affect Perception of Tap Water Safety

In addition to sensory properties of water, socioeconomic and geographic factors can affect an individual's likelihood to trust the overall safety of tap water. Overwhelmingly, lower socioeconomic status is associated with a host of negative conditions: higher rates of crime, lower performing schools, increased levels of air, water, and soil pollution, older housing stock, and poorer public health. These factors may directly or indirectly be linked to perception of tap water; while not a strong determinant, demographic factors can be related to risk perception, trust in utility provider, and detection of sensory

²¹ Jones, Andria Q., Catherine E. Dewey, Kathryn Doré, Shannon E. Majowicz, Scott A. McEwen, David Waltner-Toews, Spencer J. Henson, and Eric Mathews. "A qualitative exploration of the public perception of municipal drinking water." *Water Policy* 9, no. 4 (2007): 425-438.

²² Ibid.

²³ Ibid.

²⁴ Ibid.

²⁵ Jardine, Cynthia G., Nancy Gibson, and Steve E. Hrudey. "Detection of odour and health risk perception of drinking water." *Water Science and Technology* 40, no. 6 (1999): 91-98.

²⁶ Ibid.

²⁷ Ibid.

²⁸ Ibid.

²⁹ Jonathan Lung, in-person communication, December 19, 2017

qualities of water.³⁰ In certain areas of Los Angeles, anecdotal evidence demonstrates these may be associated with lower levels of overall satisfaction with tap water.

The public housing project in Jordan Downs provides a micro-level environment where socioeconomic status interacts with known air pollutants, soil and groundwater contamination, and higher incidences of negative health conditions like asthma and heart disease.³¹ In this community, only five percent of residents surveyed state that they trust the safety of their tap water.³² While our report does not focus exclusively on tap water quality in public housing projects, these are similar to results of other studies that demonstrate a lower satisfaction of tap water and/or higher self-reporting of foul colored, tasting, or smelling water in communities with lower socioeconomic factors.

Factors that Influence Public Trust of Tap Water Safety

Existing literature and anecdotal evidence show that public trust in tap water safety is closely related to overall trust in the utility provider. One study that was conducted in regions where tap water overwhelmingly tests as safe concluded that higher levels of substitution away from utility-delivered water are an indicator of overall lower levels of trust in government institutions.³³ Further, most utility providers do not take sufficient steps to address this lack of trust, therefore perpetuating or aggravating public opinion.

Most residential users of water do not consume information provided by their utility company (either due to lack of access, interest, or complexity) beyond their water bill. This situation leads to lower levels of information about water quality, but also the water utility itself. The lack of knowledge about spending and testing practices can lead some consumers to have lower levels of trust in the provider.³⁴

Many water agencies engage in predominantly reactive forms of communication, which means customers are regularly only receiving negative information about their tap water.³⁵ Incidences of actual water contaminant violations can have a significant impact on public trust and perceived levels of safety

³⁰ de França Doria, Miguel. "Factors influencing public perception of drinking water quality." *Water policy* 12, no. 1 (2010): 1-19.

³¹ Jordan Downs Health Needs Assessment, Preliminary Findings. Jordan Downs Health Summit. Presented on June 3, 2017.

³² Ibid.

³³ Parag, Yael, and J. Timmons Roberts. "A battle against the bottles: building, claiming, and regaining tap-water trustworthiness." *Society and Natural Resources* 22, no. 7 (2009): 625-636.

³⁴ Jones, Andria Q., Catherine E. Dewey, Kathryn Doré, Shannon E. Majowicz, Scott A. McEwen, David Waltner-Toews, Spencer J. Henson, and Eric Mathews. "A qualitative exploration of the public perception of municipal drinking water." *Water Policy* 9, no. 4 (2007): 425-438.

³⁵ Shovlin, Marjorie G., and Sandra S. Tanaka. "Risk communication in Los Angeles: a case study." *Journal (American Water Works Association)* (1990): 40-44.

of drinking water. When there are bacterial outbreaks or other types of contamination that are communicated to the public, customer trust in the safety of tap water typically declines.³⁶

Infrequent or inaccurate information exacerbates these concerns, as in the case of the City of Maywood, California.³⁷ Customers discovered that while the utility was providing annual drinking water quality reports, it was actually recycling old testing data which falsely presented the water as safe to drink.³⁸ These incidents further violate public trust, and make it difficult for the utility to regain a positive image among consumers. Lack of information in the systems that deliver municipal water, along with poor or infrequent communication, contribute to a heightened perception of risk among customers.³⁹ That sense of risk interacts strongly with overall trust in the safety of delivered water, and with the public utility as a whole.⁴⁰

Learning from Other Utilities

Limited consumer knowledge about water system management contributes to water quality and safety concerns in Los Angeles. Without accessible and easily digestible utility-level water quality information, many residents rely on media and other sources of information to judge the safety of their tap water. Increased information sharing through web-based platforms has increased public awareness of serious water safety issues, such as the inexcusable system failures in Flint, Michigan. While this type of information sharing is critical in resolving water quality issues, it can be detrimental to water systems that provide safe drinking water to their customers.

For many utilities, residential customers are the lifeblood of their operations. When customers decide to substitute away from utility-provided tap water, there is less revenue available for necessary distribution and quality-monitoring infrastructure. This situation particularly characterizes LADWP, as it is the largest municipally owned and operated water retailer in the United States and is subject to public control and regulation. A number of water utilities have sought to combat issues of public trust through innovative programs that address both quality issues and gaps in consumer knowledge.

District of Columbia

DC Water faced a public health crisis in 2001, when the utility's decision to switch from chlorine to chloramine as a treatment chemical led to premature pipe corrosion and a spike in lead far above the federal action level.⁴¹ Adding insult to injury, news reports revealed that DC Water and the EPA failed in

³⁶ Jones, Andria Q., Catherine E. Dewey, Kathryn Doré, Shannon E. Majowicz, Scott A. McEwen, David Waltner-Toews, Spencer J. Henson, and Eric Mathews. "A qualitative exploration of the public perception of municipal drinking water." *Water Policy* 9, no. 4 (2007): 425-438.

³⁷ Community Member Panel. "At the Tap Water Conference." Los Angeles, California. February 20, 2018.

³⁸ Ibid.

³⁹ Anadu, Edith C., and Anna K. Harding. "Risk perception and bottled water use." *American Water Works Association. Journal* 92, no. 11 (2000): 82.

⁴⁰ Ibid.

⁴¹ Shaver, Katherine, and Dana Hedgpeth. 2016. "D.C.'s Decade-Old Problem of Lead in Water Gets New Attention during Flint Crisis." *Washington Post*, March 17, 2016, sec. Local. https://www.washingtonpost.com/local/dcs-decade-old-problem-of-lead-in-water-gets-new-attention-during-flint-crisis/2016/03/17/79f8d476-ec64-11e5-b0fd-073d5930a7b7_story.html.

their duties to inform the public of the health risk and adequately respond to the problem quickly. After the incident, DC Water took several steps to improve safety and regain public trust. DC Water's output, since 2010, has been as safe or safer in terms of lead, than other U.S. cities with lead pipes.⁴²

Actions taken by DC Water included:

- Distribution of more than 30,000 free water filters.
- Creation of an interactive lead service line map searchable by DC residents.
- Free annual lead testing for residential customers.
- Income-eligible grants for replacing lead service lines on residential property.

New York City

NYC Water partnered with several city agencies for a perception campaign designed to encourage residents to drink more tap water and to educate them on the impact of bottled alternatives on both the environment and the city's water infrastructure.⁴³

Campaign initiatives included:

- A custom NYC Water branded reusable water bottle.
- Seasonal portable water fountains in all five boroughs.
- A mobile app including hours of operation, maps, and directions to the nearest water fountain.

Denver

Similar to other large metropolitan water districts, Denver has a large population of recent immigrants who lack trust in utility-provided tap water and instead substitute to sugar-sweetened beverages.⁴⁴ To combat the negative health impacts of such substitutions, the Delta Dental of Colorado Foundation partnered with the community group Westwood Unidos for an education campaign targeted at Latino communities. The aim of the campaign is to let these communities know that their tap water is safe and clean.⁴⁵ The campaign is supported by Denver Water, the state's largest water utility, which hosted a tour of Denver's water infrastructure for a group of community leaders, pastors, and educators in the largely Latino community of Westwood.⁴⁶ In addition to the education campaign, the utility has taken steps to improve communication with the public.

⁴² Ibid.

⁴³ "About NYC Water Campaign." n.d. NYC.gov. Accessed March 20, 2018.
<http://www.nyc.gov/html/nycwater/html/about/about.shtml>.

⁴⁴ Daley, John. 2016. "Selling The Health Benefits Of Denver's Tap Water — After Flint." NPR.org. February 13, 2016. <https://www.npr.org/sections/health-shots/2016/02/13/466109816/selling-the-health-benefits-of-denvers-tap-water-after-flint>.

⁴⁵ Ibid.

⁴⁶ Ibid.

Communication and outreach efforts include:

- Contributions to and sponsorship of external organizations.
- Water connections for special events and water trailers for large outdoor events.
- A Speaker's Bureau that provides free speakers on water topics.
- Public and private group tours of Denver Water treatment plants.

Macon Water Authority

Macon Water Authority (MWA) provides water to the metropolitan area of Macon, Georgia and surrounding Bibb County. MWA utilizes public-private partnerships to address real and perceived water cleanliness issues. In 2017, the utility formed The Macon Water Alliance, a non-profit subsidiary designed to facilitate partnerships with organizations and individuals in the community and industry.⁴⁷

Partnership initiatives include:

- MWA employees working with Rebuilding Macon, Inc. to provide free in-home plumbing repairs to low-income MWA customers.
- Supporting local Adopt-A-Stream trainings by providing test kits and equipment to volunteers.
- Public education on the importance of source water protection through participation in Macon's Annual River Cleanup.

Quantitative Analysis

Based on existing research of water quality issues, our quantitative analysis focuses on determining the extent and nature of both perception of water safety in LADWP's service areas and measured quality. We used a combination of public polling, internal utility data on complaints and quality sampling, publicly available demographic socioeconomic data, and data on the age, value and transaction history for residential properties in our area of interest. Through a series of regression models, we developed an understanding of the interrelationships between perceived water quality and demographic, geographic and property characteristics, as well as the relationships between measured water quality and temporal, geographic, physical and selected socioeconomic and demographic characteristics.

⁴⁷ "Water Quality Report 2017." 2017. Macon Water Authority.
<http://www.maconwater.org/pdf/MWA%202017%20WQR%20FINAL%20Proof.pdf> .

Table 1: Data Sources

Dataset Name	Source	Data Years
Los Angeles Department of Water and Power Water Quality Complaints and Testing Results	LADWP	2016-2017
Los Angeles County Quality of Life Index	UCLA Luskin School of Public Affairs & FM3 Consulting	2017
2016 ACS 5-Year Estimates	U.S. Census Bureau	2016-2017
LA County Assessor Database	Los Angeles County Office of the Assessor Online Property Database	2016
CalEnviroScreen 3.0	California Environmental Protection Agency, Office of Environmental Health Hazard Assessment	2017

Using Water Quality Complaint data provided by LADWP, we examined reports from 2016 to 2017, including 2,157 individual complaints. Over the two years of data, customers reported from 1 to 7 problems (including requests for water testing) per call, with 95% reporting 2 or 3 issues.

We tested the following four hypotheses:

1. Delivered water in the LADWP service area meets federal and state regulations for safety.
2. There is a difference in water quality between in-home tests and supply-side tests.
3. Older homes are more likely to experience lower water quality.
4. Individuals with lower socioeconomic status and non-white Angelenos are less satisfied with their water.

Hypothesis 1: Delivered Water in the LADWP Service Area Meets Federal & State Standards for Safety.

We first examined whether the LADWP service area water supply meets federal and state safety regulations. While system-wide drinking water quality testing has shown no ongoing MCL violations, we sought to examine the at-the-tap experience of people in LADWP's service area. LADWP customers can email or call the main customer service phone number to report a water quality concern. At that time, in addition to reporting any quality issues, customers can request that LADWP conduct a free water quality

inspection at their home. Sampling data collected from these site visits gives us a unique opportunity to look beyond the system-level tests to the water quality within the homes of people in many different parts of Los Angeles.

Water samples taken from households where customers issued a complaint about their tap water did not reveal widespread water safety violations. Out of the in-home and system-level samples collected by LADWP for fiscal years 2016 and 2017, more than 99.4% were found to be within safety standards. To determine if the small number of above-MCL samples were linked to other factors, we developed a regression model to evaluate the likelihood that a test would return a contamination result above MCL.

Controlling for other variables, we found that sampling from the supply, a higher unemployment rate, and the longer since a property was sold had small but significant impacts on the likelihood of finding sample results above the maximum allowed levels.⁴⁸

Hypothesis 2: There Is a Difference in Water Quality Between In-Home Tests and Supply Side Tests.

We observed that water quality as delivered by LADWP is almost always safe, as demonstrated above. But negative perceptions – and experiences – of quality persist, as do complaints about water quality. To examine the differences between in-home tests and supply-side tests further, we looked at the minimum detection levels for contaminants as tested through the water quality inspections. Developing this model allowed us to examine whether the interior pipes in a home play any role in the water quality experience at the tap.

Statistical analysis indicates that sampling inside the home rather than at the water supply increases the likelihood of detecting contaminants by about 2.2 percentage-points, controlling for all other variables. This finding indicates that the problem in contamination detected at the tap – while still below MCL safety standards – is higher for water that has passed through in-home piping, and that by the time the water reaches the tap, it may have picked up some additional contaminants.

Hypothesis 3: Older Homes are More Likely to Experience Lower Water Quality.

Replacing plumbing inside a home is an extremely costly renovation and one that homeowners and landlords are unlikely to commit to without urgent needs, such as leaks or other plumbing failures. To estimate of the age of the pipes in the buildings, we used the age of the home, controlling for renovations that might have taken place in connection to recent sales. The median-aged home in Los Angeles was built in 1953 – compared to 1977 in the United States as a whole. We suspect that the age of the home may have an impact on the number of complaints about water quality, possibly through the mechanism of older pipes or fixtures. Controlling for the physical location by using the property Zip Code, we found that individuals living in older properties, those that had been sold a longer time ago, and those that were more valuable were more likely to report complaints about water quality to LADWP.

⁴⁸ Auger-Velez, V., Lacoé R., Rabinowitz C., & Zhao, B. “LA TAP (Tap Water Action Plan): Evaluating the customer experience of tap water in Los Angeles.” [UCLA Luskin School of Public Affairs](#). May 15, 2018

Our analysis gave us increasing confidence that the key intervention point in improving water quality and the experience of water quality lies *inside* the homes and buildings of people in Los Angeles. The greater frequency of complaints from older properties and from properties that have not been sold for a longer time suggest that the age of interior pipes may play a role in perceptions of water quality. The greater likelihood of complaints from higher-valued properties also points to the challenges facing residents of disadvantaged communities, who may be less likely to complain across a wide range of issues, including water quality.

Hypothesis 4: Individuals with Lower Socioeconomic Status and non-White Angelenos are Less Satisfied with their Water than Others.

For a snapshot of the overall satisfaction with tap water quality, we looked to The Los Angeles County Quality of Life Index (QLI), a poll conducted by FM3 Consulting for the UCLA Luskin School of Public Affairs. The QLI asked several questions relating to satisfaction with tap water quality, in addition to detailed demographic information. The 2017 poll surveyed a representative sampling of LA County residents made up of 1,747 individuals, including 828 LA City residents. That poll found that overall, LA City residents were less satisfied with their water than those living in the rest of the County. We developed a statistical model to test our hypothesis that race, sex, socioeconomic status, education and tenancy could have an impact on the perception of water quality.

We examined the outcome of satisfaction, from 1 to 10, with water quality, dependent on race or ethnicity, income level, sex, education level, and whether or not the individual owns or rents his or her home. Among the various racial and ethnic groups surveyed, we found that while black respondents were less satisfied than white, the difference was not significant. The group least satisfied according to income appeared to be the middle-income earners, who made between \$30,000 and \$60,000 a year. Women were overall less satisfied, and while those without a high school education were more satisfied than those with a high school diploma, people with more education were less satisfied. Those with some college education and with a business or vocational degree had scores that were significantly lower than those with less education. Renters were less satisfied than property owners with water quality.

While we could not uniformly confirm our hypothesis, our research produced results suggesting some support for the idea that demographic, income, renter-status, and other factors affect perceptions of water quality. Renters are more vulnerable to experiencing lower water quality within the City of Los Angeles than homeowners, and the experience of water quality does not appear to be completely uniform across racial and ethnic lines. In addition, working-class and middle-income Angelenos were least satisfied with water quality compared with other income brackets, suggesting some socioeconomic linkage to water quality experience at home.

Relevance of Quantitative Analysis

The results of our quantitative analysis strongly support our findings from the literature review. For customers in the LADWP service area who recorded a complaint, there are differences in perception of tap water based on a variety of factors. Specifically, we found that:

1. There are differences in water quality between in-home and supply-side tests. Sampling inside of the home increases the likelihood of detecting contaminants, indicating that the pipes within the home through which water is delivered have some effect on tested water quality at the tap.
2. Individuals who live in older homes, or houses that have not been sold for a long time are more likely to file a water quality complaint with LADWP. There are more complaints from individuals living in properties of higher value. These results show that age and value of a property have an effect on an individual's likelihood to file a complaint, validating our assumption that customer experience of tap water in Los Angeles is affected by factors in the home.
3. There are some socioeconomic factors that affect a customer's satisfaction with delivered tap water in LADWP's service area. Based on our analysis of the Quality of Life Survey respondents, renters and working-class/middle-income Angelenos are less satisfied with their tap water than other groups. Additionally, water satisfaction differs across race, ethnicity and gender.

These findings lead us to determine that while water may test safe, other factors have an effect on an individual's perception of tap water cleanliness and quality in Los Angeles. Our policy recommendations must ensure ongoing safe and clean water delivery. They also should resolve gaps between customer perception of delivered water and water quality test results, especially for individuals who experience lower satisfaction with their water at the tap. As there are some differences in customer experience based on socioeconomic factors, education efforts may be most effective if geared specifically for target audiences. Additionally, our recommendations include solutions that will mitigate water cleanliness issues for individuals experiencing them at home.

Policy Options

Our literature review and quantitative analysis suggest four options for policymakers. We believe that these options represent robust solutions to solve disparities in customer experience with tap water and increase overall public education and trust in water safety. Water cleanliness affects multiple aspects of urban life, and our policy recommendations must consider those impacts.

Policy Option 1: Point-of-Sale Updates to Residential Plumbing

While LADWP offers in home testing to customers, they have no authority to regulate plumbing quality or upkeep on private property. Despite that limitation, we have identified a powerful opportunity to address a root cause of urban water quality failure: residential plumbing. Policy options that could incentivize property owners to update and maintain plumbing represent potential long-term solutions to water quality challenges.

Currently, California Civil Code requires the disclosure of the presence of lead-based paint and other environmental hazards when a real property of 1 to 4 dwelling units is transferred by any option to purchase.⁴⁹ We propose expanding this legislation to mandate that homes with plumbing that tests for elevated contaminants be upgraded or replaced at the point of sale. This has the advantage of

⁴⁹Bae, Hyunhoe. "The impact of the residential lead paint disclosure rule on house prices: findings in the American Housing Survey." *Journal of Housing and the Built Environment* 31, no. 1 (2016): 19-30.

splitting the true replumbing cost between current and future owners; however, a potential consequence of such regulation is a decrease in the value of older homes due to the high cost of replumbing.

Policy Option 2: Point-of-Use Filters for LADWP Customers

In-home point-of-use water treatment devices can offer customers a low-cost solution to water quality issues resulting from old or poorly-maintained plumbing. LADWP water quality control officials support the use of in-home point-of-use filtration devices and expressed their willingness to provide them to customers in their service area at little to no cost.⁵⁰

Point-of-use water treatment varies in type and price, but all versions are designed to filter small amounts of water at the “point” (or faucet) where water is used for consumption. Point-of-use water treatment is proven to reduce traditionally monitored organic and inorganic contaminants significantly.⁵¹ While point-of-use filtration has mixed effects on improvements to the sensory qualities of water (e.g., odor, taste, color), it can be effective in eliminating harmful contaminants from residential plumbing issues.⁵²

This option would place the cost burden on LADWP, which would provide point-of-use filters to customers in its service area. Filters would be sent to customers upon request, as well as distributed at specific community events and engagement activities. Information on proper maintenance would be included with provided filters, and LADWP would mail out replacements per the required timeline. LADWP would have control over selecting the type of filter given to the consumer; it would likely select a low-cost option that might not satisfy all customer complaints over water cleanliness issues.

Policy Option 3: Persuasion & Education Campaign throughout Los Angeles

Despite the limited body of research on perception and behavior change in relation to tap water, most evidence points to the need for both factual information and shifts in social norms. An effective education campaign will incorporate hard facts about the benefits of drinking tap water, including the staggering cost of substituting tap water for bottled beverages. Additionally, messaging should capture cross-cultural and socioeconomic differences in order to appeal to Los Angeles’s diverse audiences.

We propose an education and marketing campaign aimed at removing perception-based biases associated with drinking tap water. The goal of the education campaign will be to emphasize the quality and safety of the tap water supply and increase awareness about the health and environmental benefits of choosing tap water over bottled water or other substitutes. We recommend that such efforts focus on increasing public awareness, community engagement, and transparency through an integrated social and traditional media campaign. Public trust in water utilities, including LADWP, has proven to be low,

⁵⁰ Joe Ramallo, in-person communication, November 14, 2017

⁵¹ Brown, K. W., Gessesse, B., Butler, L. J., & MacIntosh, D. L. (2017). Potential Effectiveness of Point-of-Use Filtration to Address Risks to Drinking Water in the United States. *Environmental health insights*, 11, 1178630217746997.

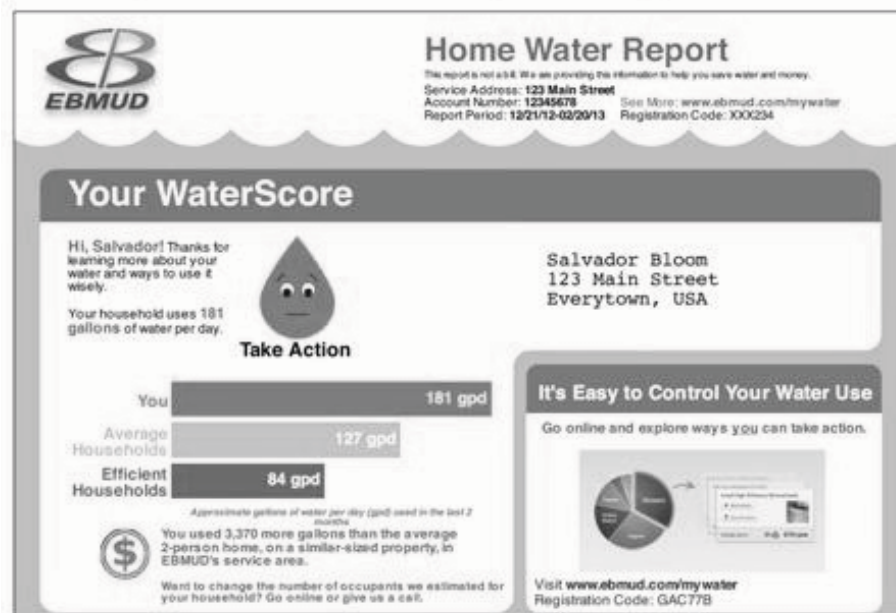
⁵² Ibid.

so it is unlikely that customers will believe water quality information provided directly by the utility. An opportunity exists for trusted local organizations (e.g. Physicians for Social Responsibility and East Yard Communities for Environmental Justice) to disseminate educational information about water quality.

Policy Option 4: Water Quality Cost Callout in Utility Bill

A final proposed solution is a change in the information included in consumers' water bills. This option would be modeled after the East Bay Municipal Utility District (EBMUD) WaterSmart Home Report, which indicates to consumers how they compare to other residents' water use. The EBMUD report includes a call to action about water conservation, and social-norm messaging about comparison households.

The Water Quality and Safety Bill Report would be an ongoing way to communicate with consumers about LADWP's performance on its water safety and quality efforts. By including a visual representation (e.g., a partially-filled water drop) of the percentage of a user's water cost that is going toward different categories such as water quality, infrastructure, delivery, and conservation efforts, the revamped water bill would increase transparency to improve public trust in the utility and consumer knowledge on water cost.



LADWP could deploy a random assignment of this bill addendum, including links to existing water quality data and reports, and the proposed water quality education materials. Along with water quality surveys, tracking visits to the included sites could allow ongoing measurement of the bill structure's efficacy.

Prioritization of Policy Recommendations

We believe all of our policy recommendations can help to resolve disparities in the customer experience with tap water in Los Angeles and improve overall public education around water safety. But based on our evaluation, our policy recommendations fall into the following ranking:

Rank Order of Policy Options

1. Point-of-use Filters Distributed by LADWP.
2. Persuasion & Education Campaign.
3. Water Quality Cost Callout in Utility Bill.
4. Point-of-Sale Updates to Residential Plumbing.

Twofold Policy Recommendation

The complexity of the existing policy environment and the wide-reaching implications of addressing water quality inequities in Los Angeles necessitate a robust policy recommendation. We believe a twofold approach including the distribution of point-of-use filters along with a persuasion campaign will be the most important to implement first.

Distribution of point-of-use filters is a cost-effective way to mitigate many water cleanliness issues for customers. Since LADWP would directly provide and distribute these filters, we believe this would work to restore and improve public trust in the safety of tap water and the utility. However, customers' lack of knowledge about how filters improve water quality, or on how to maintain the filters could limit their benefit.

We therefore propose the implementation of a persuasion campaign along with filter distribution as the most comprehensive and effective policies to prioritize. The persuasion campaign would work to increase public awareness of water quality (for example, online tools that outline contaminant levels in a customer's service area), ways that LADWP is working to consistently provide water that is safe and clean, and proper filter maintenance and care. Additionally, the campaign would include a marketing component aimed at changing cultural perception of tap water and increase consumption by making it trendier and hip, and selling its affordability, cleanliness and sustainability. Nonprofits and NGOs could play a key role in allocating grants to community partners to support the persuasion campaign, and work with LADWP to prioritize communication strategies and channels. They could also help determine metrics for program evaluation and efficacy.

Conclusion

We believe the recommendations in this chapter provide an effective strategy for addressing inequalities in customer tap water experience, may increase public awareness of tap water quality in Los Angeles. Our twofold policy recommendation of distributing point-of-use filters along with a persuasion and education campaign can work to improve consumer trust in tap water quality. More importantly, it can increase cleanliness for households experiencing less-than-ideal water at the tap.

We recognize that while providing point-of-use filters will increase water cleanliness at the tap, this approach does not solve the root cause of water quality issues for most residents: poorly maintained or aging pipes. The next step in addressing these inequities will involve significant research in the Los Angeles region and with relevant stakeholders to determine the age of residential pipes and

to evaluate the aging infrastructure's effects on water quality and safety more fully. This approach will be essential in analyzing the potential impact of these policies, including costs. Additional research can determine if point-of-sale updates for pipes have a positive overall impact on equity, and effectively serve Los Angeles's diverse communities. We recommend advocates focus on building consensus among regional and state legislative bodies to pass point-of-sale upgrade policies.

Finally, we believe that the impact of additional consumer engagement and education can have significant implications in changing public perception of tap water safety, which can have positive effects on long term economic and environmental sustainability in Los Angeles. A successful persuasion and education strategy in Los Angeles can provide a model framework to expand across the state of California.

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Chapter 3

The Promises and Challenges of Community Choice Aggregation in California

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Community choice aggregators (CCAs) are a new type of retail electricity provider that enable communities to make decisions about what kinds of energy resources to invest in for themselves rather than relying on traditional investor-owned utilities (IOUs).¹ Since 2010, California communities have established nineteen CCAs. Additionally, over a dozen communities are actively exploring the creation of a CCA.

In this chapter, we describe the opportunities and challenges facing CCAs and the implications for California more broadly, as summarized below.²

Local Choice and Community Engagement.

CCAs are created by cities, counties, or joint powers authorities (made up of municipalities), which enable them to be more reflective of distinct community preferences than the regional IOUs. Community members have direct input into CCA decision-making through their boards of directors, typically comprised of local elected officials. Through their CCAs, these communities have so far revealed strong preferences for renewable energy. Some CCAs have specifically focused on developing local electricity generation from renewable energy. Compared to their affiliated IOU, CCAs offer larger incentives to households and businesses that generate solar energy (via net energy metering programs).

Environmental Benefits.

Thus far, all CCAs in operation in California generally offer a larger share of renewable energy than their affiliated IOU, up to 28 percentage points more in 2016. According to an analysis conducted in 2016, we estimate that these efforts resulted in emission reductions of approximately 590,000 metric tons of carbon dioxide (CO₂) equivalent in 2016. With the statewide carbon market pricing a ton of carbon at \$12.73 in 2016, this translates to \$7.5 million in savings for electricity ratepayers. Through our analysis, we found that continued development of CCAs supports California's ability to surpass its 2020 renewable energy targets.

¹ A full list of acronyms is available in Appendix A.

² This chapter was originally published as a report by the UCLA Luskin Center for Innovation in July 2017 titled "The Promises and Challenges of Community Choice Aggregation in California." Analyses in this chapter were updated wherever possible, however some reflect the original analysis conducted in 2017 and should be considered representative of that snapshot in time.

We wish to acknowledge the contributions of many dedicated individuals who provided their time and knowledge to this report. First, we would like to thank staff at each of the operational community choice aggregators (CCAs) who generously contributed their time to review the report and provide data that informed our analysis: CC Song, Shalini Swaroop, Nick Shah, Byron Vosburg, and Dawn Weisz (MCE); Cathy DeFalco (LCE); Amy Rider, Deb Emerson, and Geof Syphers (SCP); Michael Hyams, Michael Totah, and Brian Stevens (CPSF); and Dan Lieberman (PCE). We also would like to thank Woody Hastings from the Center for Climate Protection, for providing comments and suggestions. We appreciate the discussions we had with individuals who helped to deepen our understanding of the issues that investor-owned utilities are currently facing: David Rubin and Vijay Bhaskaran (PG&E); and David Castle, Erin Childs, and Desiree Wong (SCE). We also wish to thank Rajan Mutialu from the Policy and Planning Division at the California Public Utilities Commission for reviewing the report and providing comments. Finally, we would like to thank Mara Elena Burstein, of Natural Resource Strategies, and Colleen Callahan, deputy director of the Luskin Center for Innovation, for reviewing and editing the report, and LeAnn Woo and Christian Zarate for the report design and layout.

A More Competitive Retail Marketplace.

Most CCAs in California offer their customers at least two options to purchase: a mixed energy portfolio with a high percentage of renewable energy or a 100 percent renewable energy option. CCAs have been able to offer greener energy at a very competitive price, sometimes at rates even lower than IOU rates. Most of the time, CCAs are able to provide lower rates for the same amount of renewable energy, compared to their affiliated IOU. The recent entrance of CCAs into the energy market allows them to benefit from a long decline of falling wholesale renewable energy costs. In contrast, IOUs have long been required by regulators to purchase renewable energy, including when it was far more expensive than it is today. This more competitive retail marketplace can only be beneficial for California's ratepayers, who will see a decrease in electricity rates and an increase in the amount of products they can choose from.

Past and Future System Costs.

Whether CCAs can remain cost-competitive with their incumbent IOUs depends on several policy decisions that could occur in the near future. The decision on how to allocate long-lived costs associated with IOUs complying with past public policies represents a challenge because there is a need to ensure fairness among both IOU and CCA customers. As more CCAs develop, more ratepayers across the state will be impacted by these policies. A clear distinction between each stakeholder's responsibilities is crucial in order to avoid unnecessary cost-shifting and artificially low rates. As an example, when a customer leaves an IOU to join a CCA, policymakers must decide how to appropriately allocate the ongoing legacy costs associated with that customer to the CCA, known as the *Power Charge Indifference Adjustment (PCIA)*. Originally, that decision-making was carried out between the IOU and the California Public Utilities Commission (CPUC) with little or no ability for CCAs to participate as they were nonexistent.

A second set of policy decisions will determine how the cost of transmission and delivery should be allocated to energy generation depending on their need for transmission lines. While some CCA customers will be willing to pay more for cleaner power, community benefits, and the local control associated with CCAs, the ability of CCAs to retain more price-sensitive customers will be determined by how policymakers address these important questions.

This chapter seeks to summarize many complex issues that affect electricity customers. Given our desire for this chapter be accessible to a lay audience, inevitably some details are omitted and others simplified. The scope of this chapter is to provide a brief overview of the different challenges encountered by CCAs and IOUs, and not to provide a full analysis of the issues currently discussed in greater detail at the CPUC.

1. Emerging Community Choice Aggregators

The rapid emergence of community choice aggregators (CCAs) represents a transformative development within California's retail energy sector. CCAs allow cities or counties to aggregate the electrical loads of their residents, businesses, and municipal facilities to purchase energy on their behalf. CCAs have directly introduced competition into historically-protected investor-owned utility (IOUs) territories. In doing so, they have given eligible California customers the unprecedented choice of retail electricity providers.

By design, CCAs reflect their local community preferences and the institutional competency of their underlying governing counties and cities. Observers should not expect uniform policies or performance across all CCAs, as most of them are still at an early development stage. Yet current trends suggest CCAs are providing direct benefits to their own customers, as well as indirect benefits to all California electricity ratepayers through competition and innovations. The nine CCAs operational in 2017 provided their customers with electricity generated from cleaner energy sources at lower costs and with greater responses to local conditions and needs.

Starting in this section (“Emerging Community Choice Aggregators”), we describe the current retail energy landscape and the historical factors that have given rise to CCAs. We also provide an overview of the existing CCAs as well as those expecting to commence next year or are currently in the planning stages. In Section 2 (“Establishing CCAs and How They Work”), we explain the legislation authorizing the creation of CCAs, procedurally how the California Public Utilities Commission (CPUC) approves the creation of CCAs, how they are governed, and most importantly, how their operational responsibilities differ from, but still depend upon, their affiliated IOUs.

In Section 3 (“Potential Benefits of CCAs”), we identify a number of benefits based on the performance of existing CCAs (quantified whenever possible). We evaluate the new renewable energy retail options they offer compared to those offered by their affiliated IOUs. We then explore the factors, both permanent and transitional, that have permitted CCAs to be cost effective. Broadening the focus, we evaluate how CCAs could help the state to more quickly achieve its renewable energy goals. Then, we qualitatively discuss additional potential benefits of CCAs.

Finally, in Section 4 (“Key Challenges to Further Developing CCAs”), we present the most important policy decisions that the CPUC and state legislature will have to make that will affect both CCA and IOU customers. When a customer leaves the IOU to join a CCA, policymakers must decide how to appropriately allocate the ongoing legacy costs associated with that customer. The fee charged to the customers to address this issue is known as the Power Charge Indifference Adjustment (PCIA). A second set of policy decisions focus on how to allocate the costs of ensuring short- and long-term grid reliability to CCAs or IOUs. A third set of policy decisions will determine how the cost of delivery should be calculated depending on the actual need for transmission lines. While some CCA customers will be content to pay a slight premium for the cleaner power, community benefits, and local control associated with CCAs, the ability of CCAs to retain more price-sensitive customers will be determined by how policymakers address these important questions.

Historical Context for the Emergence of CCAs

Historically, IOUs and publicly-owned utilities provided electricity to the vast majority of consumers in California. The interaction between ratepayers and their affiliated utility was designed to provide mutual rights, obligations, and benefits established by a regulatory compact. However, several factors frayed some communities’ trust and satisfaction with this compact, motivating them to seek alternatives to IOUs in the form of community choice aggregation. Beginning in the 1990s, and accelerated by the energy crisis of the early 2000s, California ratepayers in IOU territories became increasingly alarmed by rising electricity bills while experiencing a loss of trust in the performance (e.g., brownouts) and governance of IOUs. In the 1990s, the CPUC began planning for a transition to break up the vertically-integrated utility model. This resulted in the formation of the California Independent System Operator (CAISO) and the Power Exchange (PX) market, which enabled and supported greater competition in the

wholesale market for electricity generation. IOUs were forced to divest their wholesale generating capacity. These developments reduced the technical and institutional barriers to giving ratepayers an alternative to the regulated monopoly IOU model.

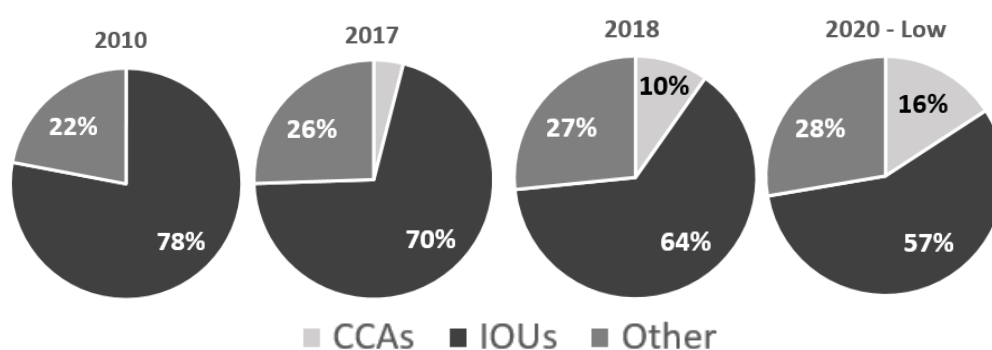
In order to accelerate the process of providing more choice and efficiency, the state legislature passed Assembly Bill (AB) 117 in 2002, enabling the creation of CCAs. The law allows local governments and communities the opportunity to take a more active role in energy procurement policy and planning on behalf of their local residents and businesses. The bill also authorized default ratepayer enrollment in CCAs with the option to opt-out back to the IOU bundled service. Historical CCA retention rates have varied between 78 and 89 percent.³

Current Retail Electricity Landscape in California

There are 95 electricity providers currently registered in California.⁴ However, only three investor-owned utilities have almost 70 percent of the electricity market share in the state and also own the majority of the electrical grid: Pacific Gas & Electric (PG&E) Company, Southern California Edison (SCE), and San Diego Gas & Electricity Company (SDG&E). CCAs, which by law may be created only in IOU territories, currently make up ten percent of the market share. As shown in Figure 1, the remainder of the market is served by publicly-owned utilities and other electric service providers (27%).

The future growth rate of CCAs depends both on their organizational performance and the policy decisions discussed in Section 4 (“Key Challenges to Further Developing CCAs”). However, it is possible that within the coming years, CCAs could grow to represent the second largest type of retail energy provider in the state, surpassing publicly-owned utilities.

Figure 1: Percentage of Electricity Delivered by Provider⁵



³ LEAN Energy US (2015). “The Potential for Community Choice Energy in the Heart of Silicon Valley.”

⁴ California Energy Commission (2018). *Electric Load-Serving Entities (LSEs) in California*. Note that not all LSEs in California are under the CAISO balancing authority.

⁵ Source: figure created by the UCLA Luskin Center for Innovation. The estimation of the ‘low’ scenario of CCA load in 2020 is based on the assumption that no new CCAs launch after 2018. CCAs’ load data was retrieved from each entity’s most recent implementation plan. IOUs’ load data was obtained from the California Energy Commission (2018) “Mid Case Revised Demand Forecast”. The “other” category represents the difference between the California Energy Commission’s statewide load estimation and the IOU and CCA loads.

Current State of CCA Development

Nineteen operational CCAs have since emerged in California. Additionally, almost 20 other CCA programs are being explored across the state.⁶ Some CCAs came into operation after the analysis for this study was completed. Thus, some of the analysis in this study only focus on the operational CCAs in California at that time.

Table 1. List of CCAs' Full Names and Acronyms

Acronym	Full Name	Acronym	Full Name
MCE	Marin Clean Energy	CPA	Clean Power Alliance of Southern California
SCP	Sonoma Clean Power	SJP	San Jacinto Power
LCE	Lancaster Choice Energy	MBCP	Monterey Bay Community Power
CPSF	Clean Power San Francisco	RMEA	Rancho Mirage Energy Authority
PCE	Peninsula Clean Energy	SEA	Solana Energy Alliance
RCEA	Redwood Coast Energy Authority	EBCE	East Bay Community Energy
AVCE	Apple Valley Choice Energy	VCE	Valley Clean Energy
SVCE	Silicon Valley Clean Energy	KCCP	King City Community Power
PRIME	Pico Rivera Municipal Energy	SJCE	San Jose Clean Energy
PIO	Pioneer Community Energy		

2. Establishing CCAs and How They Work

The creation of CCAs is a relatively new phenomenon and process both in California and nationwide.⁷ In this section, we describe the state laws that authorized the creation of CCAs and bestowed specific responsibilities upon them and their affiliated IOU. Because both CCAs and IOUs compete for the same customers, and IOUs have a powerful incumbency position, we also review the state legislation and regulatory decisions that govern the conduct of each entity.

Although newly created CCAs assume the responsibility of purchasing energy on behalf of their customers, IOUs continue to provide other essential services such as electricity distribution, metering, and billing to CCA customers. We describe how this cooperative relationship between CCAs and IOUs is designed to work. Next, we describe the process by which cities and counties may propose the creation of CCAs and how CCAs are governed by local officials once they are created.

⁶ LEAN Energy US (2018). "California."

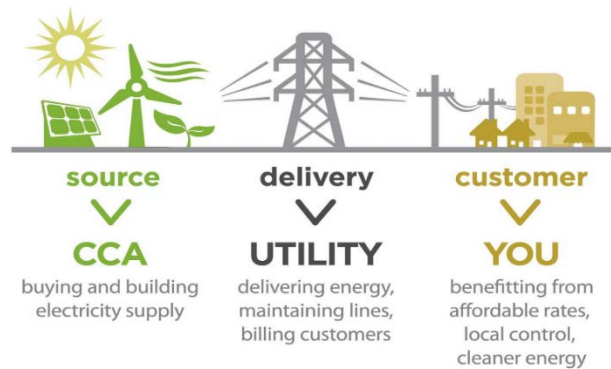
⁷ According to Lean Energy US, CCAs are statutorily enabled in California, Illinois, Massachusetts, New Jersey, New York, Ohio, Rhode Island, and Virginia with a handful of other states considering legislation. CCAs in California and Illinois are permitted to develop power projects as well as contract for power. Some states (e.g. Ohio) also allow for gas aggregation.

Policy Origins of CCAs and Their Relationship with IOUs

The authority to establish CCAs, including management of their ongoing fiscal responsibilities and regulatory obligations, was specified in Assembly Bill (AB) 117 in 2002. AB 117 was signed into law to give a city, county, group of cities, or group of counties the ability to aggregate the electrical loads of their residents, businesses, and municipal facilities. Under this state law, these aggregators can act as load serving entities for their communities, like any other utility or energy provider in California.⁸ When a county or city decides to create or join a CCA, all customers within that jurisdiction are automatically enrolled in the CCA. However, customers can choose to opt-out and choose the incumbent utility for generation and delivery (bundled) service at any time. State law requires that customers receive a minimum of four enrollment notifications in the two months before and two months after a CCA program launches. IOUs are able to recover historic investment costs and other costs resulting from the loss of departing customers, which will be discussed further in Section 4 (“Key Challenges to Further Developing CCAs”).⁹

Once operational, community choice aggregators have the procurement autonomy to facilitate the wholesale purchase and retail sale of electricity on behalf of their customers. IOUs continue to provide distribution and transmission grid services, as well as consolidated billing and other customer services to ratepayers as shown in Figure 3.¹⁰ AB 117 also stipulates that CCAs cannot aggregate electricity loads that are served by publicly-owned utilities, such as the Sacramento Municipal Utility District or the Los Angeles Department of Water and Power.¹¹

Figure 3: Cooperative System between IOUs and CCAs¹²



⁸ As articulated in the statute, the aim of a CCA is to “aggregate the electrical load of interested electricity consumers within its boundaries to reduce transaction costs to consumers, provide consumer protections, and leverage the negotiation of contracts.”

⁹ California Public Utilities Commission (2004). Decision 04-12-046.

¹⁰ California Public Utilities Commission (2003). Ruling 03-10-003. AB 117 outlines the continued responsibilities of the IOUs. “All electrical corporations... shall include providing the entities with appropriate billing and electrical load data, including, but not limited to, data detailing electricity needs and patterns of usage... Electrical corporations shall continue to provide all metering, billing, collection, and customer service to retail customers that participate in community choice aggregation programs... Delivery services shall be provided at the same rates, terms and conditions as approved by the commission, for community choice aggregation customers.”

¹¹ Assembly Bill 117 (2001). Section 9604.

¹² Nicholas Armour et al (2014). “Community Choice Aggregation in Torrance, a Pre-Feasibility Study.” The University of Southern California Price School of Public Policy.

Table 1 below illustrates the collaborative system between IOUs and CCAs, noting the respective functions associated with each. CCAs assume exclusive responsibility for electricity generation, including purchasing electricity from generators, investing in their own generating resources, and balancing supply with demand. IOUs retain exclusive responsibility for CCA customers' electricity distribution, including grid infrastructure investment and energy delivery. IOUs are also responsible for CCA customers' billing and metering. The CCA can use its revenue to finance worthy public benefits programs such as installation of rooftop photovoltaic systems and energy efficiency investments. The CCA's knowledge of its community can help improve the effectiveness of investments by targeting programs that support community preferences.

Current CPUC rules also allow CCAs the right to administer public goods funding for energy efficiency programs. Section 381.1 of the California Public Utilities Code allows CCAs to elect or apply to administer their own energy efficiency programs. If a CCA elects to administer programs, they are limited in ratepayer funds and only allowed to serve their own customers. When a CCA applies to administer programs, they are able to serve everyone in their service area regardless of whether they are a CCA or IOU customer.¹³

Table 1: How Responsibilities Are Shared between CCAs and IOUs

	CCAs	IOUs
Electricity Generation		
Purchasing electricity from suppliers	✓	
Balancing supply with demand	✓	
Electricity Distribution		
Grid infrastructure		✓
Delivering electricity to ratepayers		✓
Transaction		
Billing and Metering		✓
Communication	✓	✓
Integrated Demand Energy Resources		
Energy Efficiency Programs	✓	✓
Net Energy Metering Programs	✓	✓

Source: Table created by the Luskin Center for Innovation in May 2016.

The Policy Framework for Managing Competition between CCAs and IOUs

Senate Bill (SB) 790, the Charles McGlashan Community Choice Aggregation Act,¹⁴ directed the CPUC to establish a code of conduct to regulate IOU interactions with CCAs.¹⁵ The CPUC subsequently implemented a number of new regulations, including the following:¹⁶

¹³ California Public Utilities Commission (2014). Decision 14-01-033.

¹⁴ Senate Bill 790, Section 1. Charles McGlashan was a supervisor on the Marin County Board of Supervisors, and the founding chairman of MCE.

¹⁵ California Public Utilities Commission (2012). Decision 12-12-036: "Adopting a Code of Conduct and Enforcement Mechanisms Related to Utility Interactions With Community Choice Aggregators, Pursuant to Senate Bill 790."

¹⁶ Ibid.

- A CCA Code of Conduct that defines and restricts marketing and lobbying activities that IOUs can conduct against CCAs and ensures equal treatment of CCAs by IOUs.
- Regular audits of the IOUs' compliance with the CCA Code of Conduct.
- The annual calculation and disclosure of a "neutral comparison" of the rates of an IOU and any CCA within its service area.

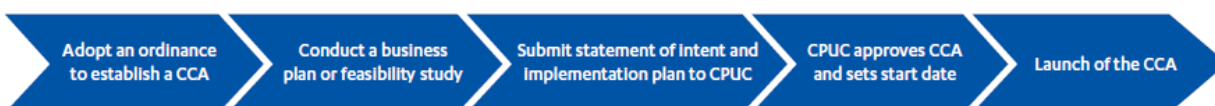
Other Major State Law Requirements

CCAs are also subject to other regulations applicable to Load Serving Entities, including, but not limited to: Resource Adequacy (RA) provisions, the Renewables Portfolio Standard (RPS), the Global Warming Solutions Act of 2006 (AB 32), and the Power Source Disclosure Program, administered by the California Energy Commission.

Regulatory Process of Becoming and Terminating a CCA

Cities and counties must follow a specific process in order to create a CCA, which ultimately must receive CPUC certification. Figure 4 below details the public process necessary to launch a CCA. Cities and counties initiate the CCA creation process by adopting an ordinance. Subsequently, they often conduct a feasibility study and are required to submit an implementation plan to the CPUC containing a variety of necessary components, including a statement of intent. The launch of a CCA frequently occurs in several phases by territory and customer category.

Figure 4: Regulatory Process for Establishing a CCA



CCAs are required to have sufficient funds to compensate ratepayers for IOU reentry fees, should a CCA need to terminate services. To date, no CCAs have terminated services in California. This possibility of service termination also raises questions about the role and responsibilities of IOUs as the legal "provider of last resort," highlighting a need to clarify how a provider of last resort would allocate costs and seek cost recovery. A related question is how any energy procurement contract liabilities associated with a terminated CCA would be allocated among local stakeholders.

Currently, AB 117 requires CCAs to "post a bond or demonstrate insurance sufficient to cover the reentry fees."¹⁷ The CPUC adopted an interim bond that is equivalent to the security deposit requirement that currently applies to an energy service provider's (ESP) registration with the CPUC, between \$25,000 and \$100,000, depending on the number of customers. According to some IOUs, this interim bond is insufficient to cover all costs required to ensure a rapid return of all customers in case of termination. This discussion has been a part of proceedings at the CPUC.¹⁸

¹⁷ Ibid. Page 2.

¹⁸ California Public Utilities Commission (2017). Ruling Setting Prehearing Conference. Rulemaking 03-10-003.

Governance Structure

CCAs are public agencies that are governed by a public board of directors, a city council, or a commission. Boards of directors are typically comprised of elected officials from each of the member communities, such as county chairs and vice chairs, mayors, and city or town council members and supervisors. Meetings are held on a regular basis to make administrative and policy decisions related to the operation of the CCA. CCAs can choose from three types of governance structures: a multi-jurisdictional joint powers authority, a single city or county enterprise fund, or third-party management.

A joint powers authority (JPA) serves as a public, not-for-profit agency on behalf of the municipalities that choose to participate in the CCA program. Under this legal structure, assets and liabilities of the CCA program remain separate from those of the county or city general funds. Surplus funds generated by the CCA may be reinvested back into the community in the form of new energy projects and programs within the entire service area, such as solar rebates for low-income households. For example, Marin Clean Energy, Sonoma Clean Power, and Peninsula Clean Energy are joint powers authorities.

A second option is to establish a CCA through a single city or county enterprise fund. Under this governance structure, the CCA is managed by a single entity, as a separate program or fund within existing municipal operations. The financial liability has to be mitigated by specific vendor contract language that protects municipal assets. In some cases, the entity can be financially independent. For example, both Lancaster Choice Energy and CleanPowerSF chose this option.

A third option involves commercial third-party management where the CCA's operations are delegated by contract to a private firm. This model has yet to be assessed because it has not yet been implemented in California.

3. Potential Benefits of CCAs

CCAs have the potential to offer a variety of benefits to their customers, their region, and the State of California. In this section, we review the performance of CCAs along a variety of dimensions. We first assess the ratio of clean energy in the portfolios within CCAs compared with their affiliated IOU, revealing that CCAs provide larger amounts of renewable energy and produce lower amounts of greenhouse gases (GHGs) than their affiliated IOUs. Second, we compare costs of commensurate clean energy service options across CCAs and affiliated IOUs. Today, all CCAs provide their customers with competitive rates for a comparable or superior service. Third, and more broadly, the presence of CCAs also increases competition within IOU service territories, leading to greater consumer choice.

We also assess prospective benefits. These benefits include determining how much quicker the State of California may be able to achieve its ambitious renewable energy goals with the assistance of CCAs. This analysis is based on existing and soon to be launched CCAs. Finally, we assess the benefits that CCAs offer in terms of greater direct local democratic control and their ability to tailor policies to local conditions. As a result, CCAs appear to be positioned to address the local need for job creation, environmental justice, and more targeted education. Some CCA policies appear to offer additional environmental benefits through net energy metering compensation as well as offering ratepayers more options such as a 100 percent locally-produced renewable energy product.

Environmental Benefits of CCAs for Californians

Existing CCAs aim to supply larger quantities of renewable energy resulting in a greater reduction of criteria air pollutants and greenhouse gases emitted than their affiliated utilities. The UCLA Luskin Center for Innovation conducted an analysis using the power content labels obtained from each utility. We also used the emission factors and the two percent transmission loss correction factor provided by the California Air Resources Board.¹⁹ This analysis was completed in 2017 based off 2016 power content labels, so it represents a snapshot in time of CCAs early efforts. The use of Category 3 renewable energy certificates was also taken into consideration as it affects the actual greenhouse gas emissions for both MCE and Lancaster Choice Energy.

Figure 5 compares CCAs' and IOUs' power content labels and resulting greenhouse gas emissions. For example, we estimate that for the same amount of electricity delivered in 2016, MCE emitted 26 percent less greenhouse gases than PG&E, due to a higher use of renewable energy. Sonoma Clean Power emitted 61 percent less than PG&E, CleanPowerSF emitted 30 percent less than PG&E, and Peninsula Clean Energy emitted 53 percent less than PG&E. We also estimate that Lancaster Choice Energy emits one percent more greenhouse gases than SCE for the same amount of electricity delivered. Even though Lancaster Choice Energy displays a larger share of renewable energy than SCE, a substantial amount comes from Category 3 renewable energy certificates, also called unbundled renewable energy certificates.

Together, these efforts could have resulted in a total emissions reduction of approximately 590,000 metric tons of CO₂ equivalent in 2016.²⁰ With a metric ton of carbon priced at \$12.73 by the statewide carbon market in 2016, this is more than 7.5 million dollars saved without requiring any conservation investment or consumption reductions from Californians.²¹

Reducing the use of fossil fuels in CCAs' power mix has a broader impact beyond CCA territories because electricity is often produced regionally. It may also disproportionately benefit low- and moderate-income households who generally live closer to natural gas power plants than wealthier households.

¹⁹ Greenhouse gas emissions estimations are based on the California Air Resources Board's reported emission factors for natural gas (0.61 MtCO₂e/ MMBTU), unspecified sources (0.428 MtCO₂e/MWh), and geothermal (0.23 tCO₂e/MWh).

²⁰ With Peninsula Clean Energy being operational only for the last seven months.

²¹ California Air Resources Board (2016). Auctions of the California Cap-and-Trade program in 2016 were settled at the price of \$12.73 per metric ton of CO₂ equivalent.

Figure 5: Power Mixes for Each Load Serving Entity and Their Associated Reduction in Greenhouse Gas Emissions

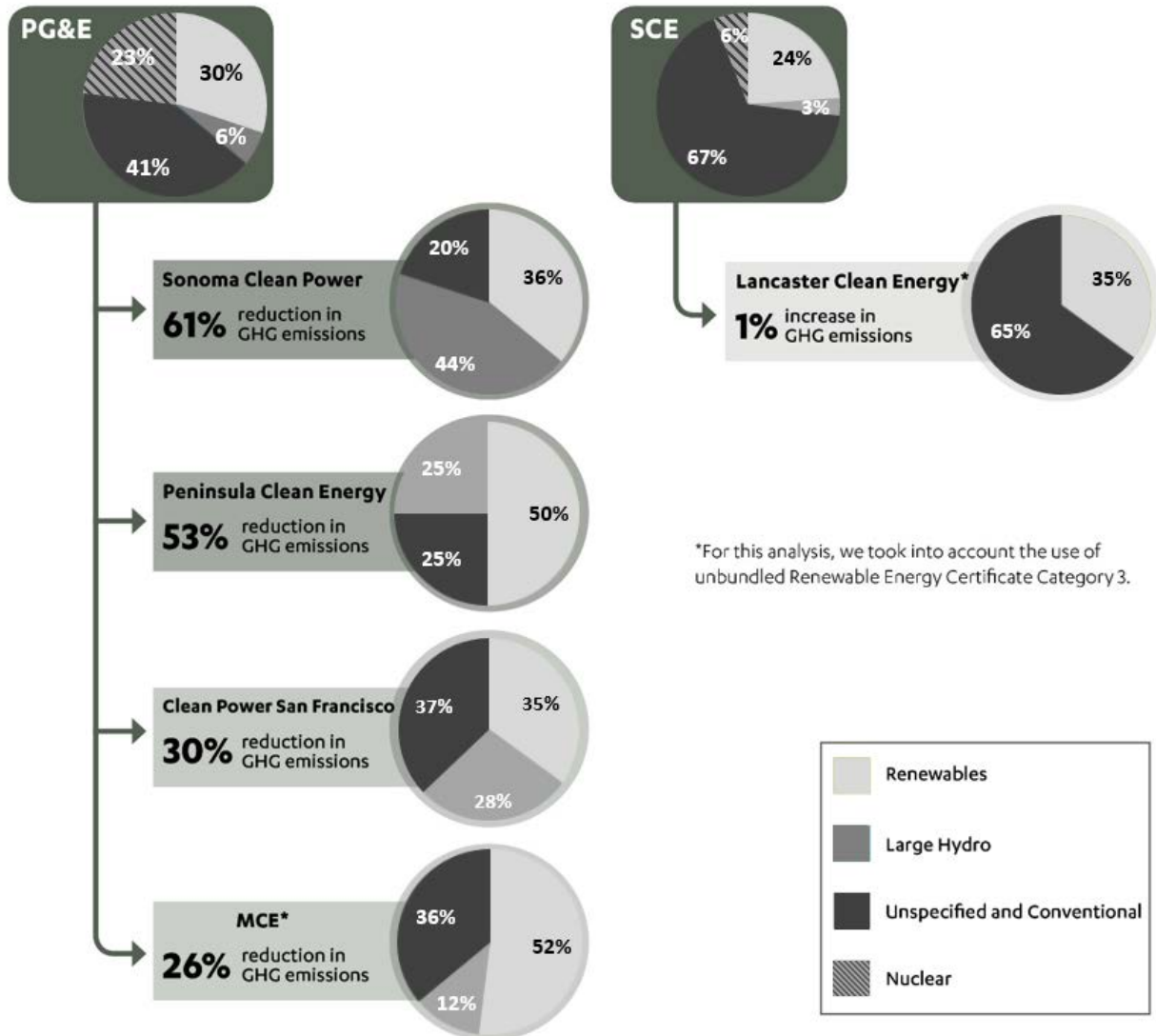
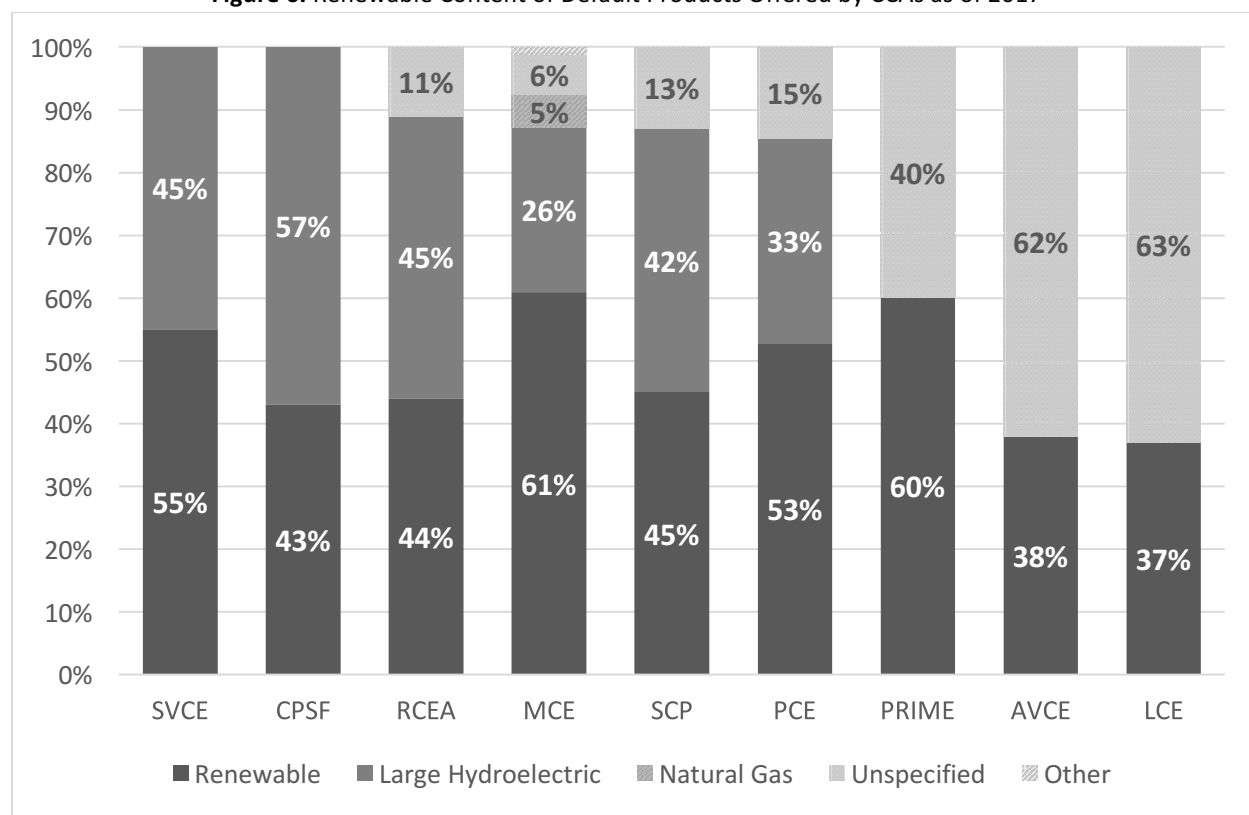


Figure 6 compares the power content of the default products offered by operational CCAs, as of 2017. As a comparison, PG&E and SCE respectively had 33% and 32% of their electricity generated from renewable energy in 2017.²²

Figure 6. Renewable Content of Default Products Offered by CCAs as of 2017²³



Financial Benefits for Ratepayers: Greener Electricity at Competitive Prices

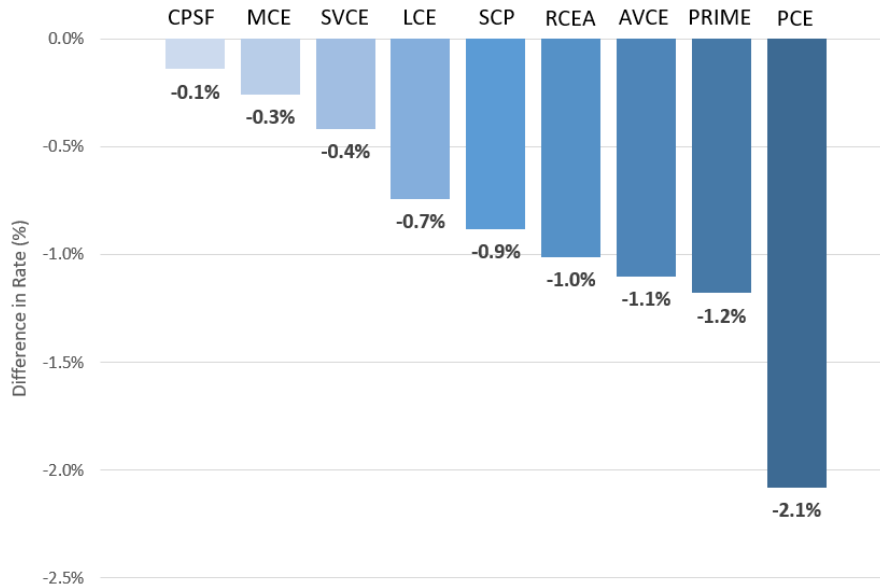
Existing CCAs have provided the opportunity to their customers to receive greener electricity at competitive rates. This section presents a comparison of residential electricity rates amongst CCAs and their affiliated utilities. We find that most of the time, CCAs are even able to provide lower rates for the same amount of renewable energy, compared to their affiliated IOUs.

As illustrated below, all CCAs offer a slightly lower rate than their incumbent IOUs. We will review in the following sections the rate comparison, as well as the factors influencing this price difference between these entities.

²² Estimated based on publicly available California Energy Commission 2017 power source disclosure program data.

²³ Renewable energy content estimated based on publicly available California Energy Commission 2017 power source disclosure program data for default options.

Figure 7. 2017 CCA Rate Comparison to Affiliate IOU²⁴



Factors that Affect the Relative Difference in Rates

There are several factors that explain how CCAs are able to provide substantially cheaper electric generation rates to their residential customers than the main IOUs.

Cheaper Renewable Energy and More Flexible Use of Power Purchase Agreements

CCAs have an inherent motivation to negotiate low-cost contracts for electricity generation in order to keep their customer retention rate high. This specific goal is partially made possible because the cost of renewable energy has decreased recently compared to when the renewables portfolio standard was first implemented in 2002. IOUs still have some old and expensive contracts in their energy portfolio. This drives up their total energy procurement costs, while CCAs can utilize less expensive renewable energy procurement contracts in order to compensate for the previously mentioned exit fees imposed on them.

The length and type of power purchase agreements can also play a role in price negotiations. Long-term power purchase agreements allow the construction of power plants, while short-term power purchase agreements are typically used for energy surplus purchases and can cost less. Newly created CCAs may utilize more short-term power purchase agreements than IOUs when sourcing their electricity generation to provide immediate transitional resources until they are able to invest in building local renewable projects; this may result in lower costs for immediate electricity procurement.

Moreover, CCAs often start without credit history, making it harder for them to sign long-term contracts. However, Senate Bill 350 (2015) stipulates that “beginning January 1, 2021, at least 65

²⁴ This comparison focused exclusively on residential rates (E-1 for PG&E and Domestic for SCE). Rates from each entity’s 2017 IOU-CCA Joint Rate Comparisons.

percent of the procurement a retail seller counts toward the renewables portfolio standard requirement of each compliance period shall be from its contracts of 10 years or more in duration or in its ownership or ownership agreements for eligible renewable energy resources.” However, this requirement could affect the cost competitiveness of some CCAs due to their lack of credit history.

Not-for-Profit Organization

CCAs are not-for-profit entities. Although CCAs must borrow capital and adhere to financial obligations, they do not need to take into consideration shareholders’ interests as their affiliated IOUs do.

On the transmission and distribution side, IOUs charge their rate of return to all ratepayers across California, regardless of whether or not they are CCA customers.²⁵ On the electricity generation side, both IOUs and CCAs directly pass through the cost of their power purchase agreements to their ratepayers. However, when CCAs build their own electricity generation facilities, they do not have to take into consideration shareholders’ financial interests and a rate of return for the construction of these facilities, potentially resulting in a lower generation rate for their ratepayers.

Renewable Energy Certificates

The use of unbundled renewable energy certificates can also influence the cost of renewable energy generation. For renewables portfolio standard compliance purposes, each retail seller is allowed a maximum use of 15 percent Category 3 renewable energy certificates between 2014 and 2016 and 10 percent maximum between 2017 and 2020.²⁶

Due to the time needed to establish power purchase agreements of Category 1 or 2 renewable energy, some CCAs may go through transitions where they use Category 3 renewable energy certificates. Most of the time, this usage happens when CCAs are first launched or when a CCA has a rapid expansion of its customer base.

According to discussions with each of the five existing entities, in 2016 CCAs used either no Category 3 renewable energy certificates or an amount in compliance with the renewables portfolio standard threshold. As an example, MCE’s Integrated Resource Plan published in 2015 shows that it will use no more than 3 percent Category 3 renewable energy certificates in 2016 and moving forward. Lancaster Choice Energy used up to 15 percent of Category 3 renewable energy certificates in 2016. However, according to Lancaster Choice Energy, this number will decrease over time as it increases its share of bundled renewable energy (Category 1 or 2 renewable energy certificates).

²⁵ The rate of return of an IOU is most of the time directly translated into the delivery rate through the transmission revenue requirement formula: $RR = r(RB) + \text{Operating Expenses} + \text{Depreciation \& Amortization} + \text{Taxes}$. With r = overall rate of return and RB = Rate Base.

²⁶ Renewable energy certificates are a tracking system designed to monitor renewable power production by providing documentation and ensure compliance with the renewables portfolio standard. The renewables portfolio standard delineates renewable energy certificates into three categories and places minimum and maximum allowable percentages for each. Renewable energy certificates can either be purchased from a provider along with the electricity or purchased separately from the electricity. Category 1 and 2 renewable energy certificates are delivered with the produced and underlying energy, known as bundled renewable energy certificates. Category 3 renewable energy certificates are considered unbundled as they are sold separately from the produced energy at a cheaper price, often to bring electricity produced from non-renewable resources into renewables portfolio standard compliance.

The State of California does not view Category 3 renewable energy certificates as an appropriate long-term solution to procuring renewable energy. Many CCAs and the three main IOUs do not use Category 3 renewable energy certificates in their energy procurement.

Benefits to IOU Ratepayers

The expansion of CCAs has put pressure on IOUs to remain competitive in terms of rates and products offered. CCAs offer several options with different power content to their customers. Since the implementation of Senate Bill 43 in 2013, IOUs can also offer their bundled customers an energy option with a greener power mix through the Green Tariff Shared Renewables (GTSR) Program. As a result, the CPUC has recently permitted IOUs to offer 50 and 100 percent renewable energy options to their customers for a premium.

Benefits of Local Engagement: Customer Access to Decision-Making

CCA customers are offered a more accessible decision-making process compared to IOUs' ratepayers. Most decisions affecting the latter are often made by the CPUC. The CPUC Commissioners are appointed by the governor and oversee the regulation of very large service territories that contain heterogeneous communities. The CPUC decision-making process entails vetting by energy professionals but CPUC proceedings could be complex and difficult to follow for many ratepayers.

In contrast, CCAs focus on smaller territories and are overseen by democratically-elected local officials. This provides their ratepayers with enhanced local community participation in governance decisions.²⁷ It also helps CCAs respond more closely and rapidly to their ratepayers' preferences. Moreover, some CCAs have community advisory committees made up of volunteers with technical, legal, energy, or some other relevant experience who represent labor, commercial, industrial, residential, and other stakeholders.

Environmental Justice

By statute, all of the low-income and other public benefit programs available to bundled IOU customers are also available to community choice customers as those programs are funded on the delivery side of the bill. So, for starters, there is no step backward by choosing community choice.

Community choice agencies are uniquely positioned to initiate programs that offer both near- and longer-term relief to communities suffering from the impacts of fossil fuel extraction, fossil power generation, and end-use in transportation. Several CCAs have or had programs aimed to accelerate the electrification of transportation: MCE's SmartCharge program, SCP's Drive Evergreen, and LCE's engagement with BYD electric bus local manufacturing and charging. These measures have the potential to improve local air quality rapidly, as well as to address global climate emissions in the longer term.

By providing their customers with the ability to choose a greener product or a 100 percent renewable product at a cheaper tariff relative to the comparable IOU product, CCAs create an opportunity to bring

²⁷ All CCAs are subject to California's open meeting laws, including the Brown Act which requires transparency and public participation in Board Meetings; CCAs are also subject to the Public Records Act. Access to meetings and decisions allows for transparency and accountability in decisions that affect the public.

clean energy to Californians who do not have the financial capacity or the ability to install their own distributed generation resources. For example, renters are often unable to install solar panels on their roof and low-income households are unlikely to have the financial ability to invest in rooftop solar. Leveraging strong local preferences for clean energy, community knowledge, and flexibility to implement pilot programs based on best practices from around the country, CCAs offer many opportunities for innovation.

Like IOUs, CCAs provide programs tailored to low income ratepayers. As an example, MCE offers energy efficiency programs for low-income multi-family housing units and small commercial customers. In 2017, MCE's programs resulted in over 1,600 MWh in electricity savings and distributed \$123,288 in rebates.²⁸ MCE and CleanPowerSF both have helped provide low-income customers with access to solar installation by collaborating with GRID Alternatives and GoSolarSF.

Local Education

Also like IOUs, CCAs invest in job training to develop their local workforce. MCE has sponsored multiple classes at the RichmondBUILD Academy, which trains local workers from underserved populations and low-income households. Many graduates of this academy worked on MCE's Solar One project, which had a 50 percent local hire requirement. Additionally, MCE provides technical and outreach trainings to Marin City Community Development Corporation and hires directly from that program for its energy efficiency program. Likewise, Lancaster Choice Energy works closely with various partners on clean energy education, including with the Lancaster School District.

Prospective Benefits of Developing CCAs in the Future

While some of the benefits described above can be identified and measured, some cannot yet be quantified with certainty as CCAs continue to emerge. First, by providing cleaner electricity at competitive rates, CCAs could contribute to reaching and even surpassing the state's environmental goals, including renewables portfolio standard and greenhouse gas reduction targets. Second, by aiming to generate electricity closer to where it is used, CCAs could improve their community's resiliency to natural disasters, spur their economy through local job creation, and avoid expensive transmission line expansions.

Exceeding the California Renewables Portfolio Standard (RPS)

California is on track to meet its 2026 RPS target of 50 percent six years in advance, partly as a result of the rise in CCAs.²⁹ According to an analysis conducted by the UCLA Luskin Center for Innovation in 2018³⁰, CCAs supplied a weighted average of 52 percent renewable energy in 2017 (refer to the previous section "Community Choice Aggregation and its Impact on the Californian Electricity Sector" for further details). At the same time, PG&E and SCE's relative RPS share has increased as a result of having a smaller customer due to customers departing IOU's service for CCAs. According to the CPUC, the three main IOUs are expected to have a weighted average of over 50 percent RPS in 2020. Figure 8 below

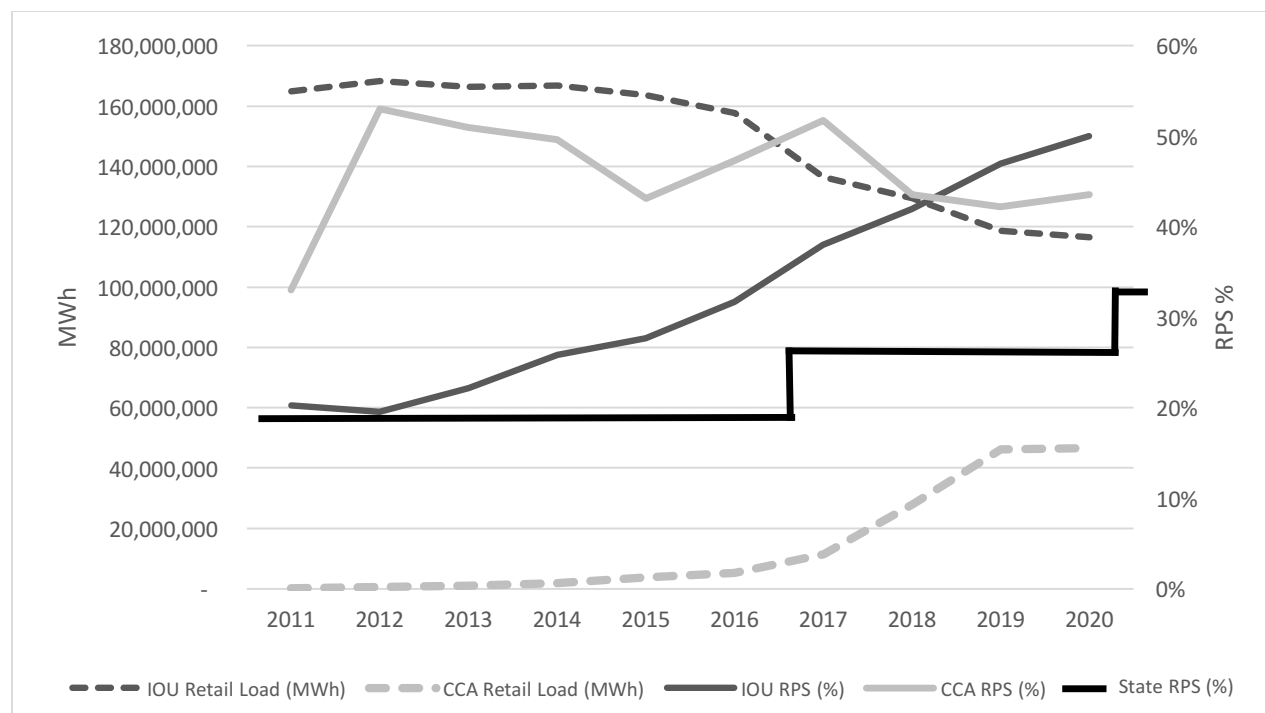
²⁸ MCE. "2017 MCE Energy Efficiency Annual Report"

²⁹ California Public Utilities Commission (2018). *California Renewables Portfolio Standard (RPS)*.

³⁰ UCLA Luskin Center for Innovation (2018). *The Growth in Community Choice Aggregation: Impacts to California's Grid*.

illustrates the rise in CCA load and the decrease in IOU load, as well the weighted averages of both IOU and CCA renewable energy sales.

Figure 8. Historical Percentage of Renewable Energy by Load Serving Entity³¹



Note: The proliferation of CCAs is not the only reason for RPS over compliance. As an example, until June 2018, SDG&E did not have any operational CCAs in its territory but has the highest share of RPS of all IOUs with 43% in 2016 versus 33% and 28% for PG&E and SCE, respectively.³²

Toward More Local Energy Generation and Less Transmission Need
When CCAs focus on developing local energy generation and distributed generation, they reduce reliance on long-distance transmission lines. Other benefits of doing so include potential reduction of

³¹ Source: This figure originally appeared in a 2018 report by the UCLA Luskin Center for Innovation, produced by Next 10: *The Growth in Community Choice Aggregation: Impacts to California's Grid*. IOU load data from the California Public Utilities Commission 2016 Preliminary RPS Compliance Reports. IOU RPS eligible power content percentages from the California Public Utilities Commission (2017) *Renewables Portfolio Standard Annual Report*. CCA load data from each CCA's most recent respective implementation plan. CCA historical RPS eligible power content estimated based on load data and historical power content labels. Future CCA RPS eligible procurement estimated from power content and load projections from their respective implementation plans, integrated resource plans, and established targets when possible. If not, we assume that CCAs will not decrease the share of renewables in their portfolio between 2018 and 2020 and that CCAs will be in compliance with RPS mandates. This assumes a 'low' scenario in which no new CCAs launch after 2018.

³² California Public Utilities Commission (2018). *California Renewables Portfolio Standard (RPS)*.

peak loads, providing ancillary services such as reactive power and voltage support, improving power quality, and decreasing communities' vulnerability from potential catastrophic disruptions.³³ The development of local energy generation could also save costs by eliminating the need for transmission and distribution upgrades.

As illustrated in more detail in the following Section 4, transmission revenue requirements have strongly increased since 2005. Rising transmission costs and potential future changes in the calculation of delivery fees might increase the structural incentives benefiting distributed generation. This, in addition to CCAs' mission statements, would push to prioritize local solar installations. In this context, CCAs may enjoy cost reductions for ratepayers as a result of procuring more distributed generation as IOU transmission tariff structures evolve. In parallel, some stakeholders are questioning the current method used to estimate delivery fees and how it applies to energy providers.

As previously mentioned, MCE offers their ratepayers an option to receive 100 percent of their electricity from locally generated solar power. When customers enroll in this option, MCE is able to incentivize local distributed generation. Today the customers' decision to enroll in this option is generally based on environmental criteria or the desire to support local job creation. In the future, this decision could be driven by financial reasons resulting from a further drop in rooftop solar installation costs and increases in transmission charges.

As more CCAs are set to launch in the coming years, they could influence the future of energy procurement in California. For many reasons, it is challenging to quantify and compare energy procurement strategies between CCAs and their affiliated utilities. First, there are substantial differences in territory size. Second, CCAs have shown the desire to build their own electricity generation facilities to meet increasing demand load while IOUs face decreasing electric load. This feature gives CCAs the discretion to focus more on local energy generation and reduce their overall need for long-distance transmission lines. Moreover, there are important differences between CCAs, many of which are still at an early stage of their implementation.

Mechanisms in Place to Promote Local Distributed Energy Generation: Higher Net Energy Metering (NEM) Incentives

CCAs tend to offer customers more advantageous NEM compensation than their affiliated IOU, although both of their respective customers are eligible for NEM programs when installing renewable generation facilities on-site. However, IOUs and CCAs compensate their NEM customers differently for any annual net surplus of energy generated. As Table 2 illustrates, in an effort to support local distributed energy resources, most CCAs offer higher financial incentives to their NEM customers.

PG&E and SCE pay the Net Surplus Compensation Rate, which is based on the energy consumed and generated, as well as the wholesale rate, which varies from month to month.³⁴ Several CCAs pay the net surplus of energy based on the retail rate the customer is enrolled in, plus \$0.01/kWh. Other CCAs offer a flat rate for any excess energy generated. For example, Lancaster Choice Energy offers \$0.06/kWh, which is currently twice as high as SCE's NEM compensation rate.

³³ US Department of Energy and the Federal Energy Regulatory Commission (2007). "The Potential Benefits of Distributed Generation and Rate-Related Issues that May Impede their Expansion."

³⁴ California Assembly Bill 920 requires IOUs to pay customers for surplus electricity generated.

As long as a customer's on-site generation is greater than the usage, thus resulting in net energy surplus, a customer will generally receive greater incentives through a CCA's NEM program than an IOU's.

Table 2: NEM Compensation Rates³⁵

	PG&E	MCE	SCP	CPSF	PCE	RCEA	PIO	MBCP	SCE	AVCE	LCE	PRIME	RMEA
Compensation Rate (per kWh)	2.8¢	7.8¢	7.7¢	8.9¢	7.8¢	8.1¢	3¢	6.1¢	3.1¢	6¢	6¢	6¢	6¢

Local Job Creation Resulting from Local Renewable Energy Generation

CCAs facilitate local job creation in a number of ways. Most prominently, CCAs have the opportunity to build their own electricity generation facilities and usually tend to do so within their territories. In addition, CCAs enter into agreements with third party energy providers to build new facilities locally. Focusing on local distributed renewable energy resources can result in local jobs in construction, installation, and maintenance. This could improve their local economy by reducing unemployment and improving household incomes. These benefits could become greater as CCAs keep investing in local energy resources.

The UCLA Luskin Center for Innovation conducted an independent local job creation study in April 2016, based on information retrieved from each CCA's Integrated Resource Plan, Resource Summary and Guidance, or CPUC documents. It estimated job creation with the National Renewable Energy Laboratory Jobs and Economic Development Impact Models (JEDI Models). This analysis focused on local operations and maintenance (O&M) jobs and current local construction jobs. The following summarizes our findings for the four CCAs operational at that time. This analysis presents a snapshot in time of the means through which CCAs have supported clean jobs.

MCE

MCE has created a significant number of jobs in the past years through approximately four local power purchase agreements, the development of MCE Solar One, and four feed-in tariff projects. As of April 2016, MCE has three local projects under construction:

- The Redwood Landfill, a biogas facility, created 24 construction jobs and 16 local operations and maintenance jobs.
- MCE Solar One is estimated to create approximately 155 local full-time employment for construction and three local operations and maintenance jobs.

³⁵ Source: each entity's respective website or integrated resource plan. Compensation rates accurate as of June 2018.

- Recently, MCE's six FIT programs in Cooley Quarry, Richmond, and Larkspur have cumulatively created 105 full-time employment jobs for the construction and installation of photovoltaic (PV) panels and two operations and maintenance jobs.

The remainder of MCE's local power purchase agreements were already constructed in 2016 and support approximately 28.2 local operations and maintenance jobs annually.

Sonoma Clean Power

The Sonoma Clean Power Integrated Resource Plan indicates that four major power purchase agreements have been signed and initiated, or helped to initiate, the creation of several generation sources across the state. Of those contracts, two 10-year agreements were signed with a local energy company, Calpine ST, to provide up to 18 MW and 50 MW of energy and resource adequacy which is expected to support local operations and maintenance jobs.

CleanPower San Francisco

CleanPowerSF adopted a NEM program in 2016 that—in conjunction with San Francisco's GoSolarSF program, which provides payments to end use customers to support the installation of solar panels on their buildings—will create a number of local solar installation jobs. CleanPowerSF is also working on establishing a FIT program to support the development of larger grid connected solar projects within San Francisco. In the long term, CleanPowerSF plans to build, own, operate, or contract with new renewable energy facilities to support the city's goal of achieving 100 percent greenhouse gas-free electricity supply by 2030. All of these initiatives will help create additional construction and operations and maintenance jobs in the region.

Lancaster Choice Energy

Lancaster Choice Energy's contract with Western Antelope Dry Ranch, LLC for the purchase of 10 MW of local renewable solar energy is expected to support 148 construction jobs and three operations and maintenance jobs.

4. Key Challenges to Further Developing CCAs

California is headed toward transformation with the rapid development of CCA programs across the state. Their proliferation could positively impact Californians should CCAs continue to provide competitive rates, ensuring high customer retention rates, while providing greener electricity. At the same time, their emergence presents some unresolved policy questions that state regulators must address.

One policy choice involves how to allocate long-lived costs associated with IOUs complying with past renewable energy policies to ensure fairness among both IOU and CCA ratepayers. A second set of policy choices involves how grid reliability costs are shared among IOUs and CCAs. Finally, a fair calculation of the transmission and distribution costs is essential to establish a level playing field for CCA and IOU customers.

As more CCAs expand, more ratepayers across the state will be impacted by how past, present, and future costs are shared across IOU and CCA customers. A clear distinction between each stakeholders' responsibilities is crucial in order to avoid unnecessary cost shifting and artificially low rates.

This section seeks to summarize many complex issues that affect ratepayers in California. Given our desire to have this report be accessible to a lay audience, inevitably some details are omitted and others simplified. The scope of this report is to provide a brief overview of the different challenges encountered by CCAs and IOUs, and not to provide a full analysis of the issues currently discussed in greater detail at the CPUC.

Ensuring Fair Shared Costs between Ratepayers: The Power Charge Indifference Adjustment - Background and Definition

In the past, several statutes have impacted the procurement decisions of IOUs. Assembly Bill 995, passed in 2000, and the renewables portfolio standard required the three main IOUs to invest millions of dollars every year in renewable energy from 2002 to 2012. Those investments occurred at a time when photovoltaic technology was still at an early stage and significantly more expensive than today. This stimulated the growth of renewable energy technologies in California, resulting in a drop in costs and a cleaner energy portfolio. The benefits and costs resulting from those policies should be shared amongst all Californian ratepayers.

Moreover, in the current electricity market structure, and according to the Regulatory Compact, those legacy costs and obligations travel with the customer. The Power Charge Indifference Adjustment (PCIA) allows these costs to be shared between bundled and unbundled customers. Bundled service customers receive supply and delivery services solely from one IOU. Unbundled service customers receive supply from a load serving entity, such as CCAs, while receiving delivery services from the affiliated IOU. The PCIA is a charge assessed by IOUs to cover generation costs acquired prior to a customer's departure to another service provider. This non-bypassable charge is applied to all unbundled customers: CCA, Green Tariff Shared Renewables (GTSR), and direct access (DA) customers, in order to recover above market costs.

Bundled customers include all of those who do not fall under these categories described above and also share in these costs, except that the PCIA is embedded in their electricity rate and not broken out as a separate charge on their electricity bill, as it is for unbundled customers. CCA customers benefit from lower generation rates because the price of natural gas and renewable energies is lower today than it used to be when IOUs signed older PPAs. Thus, IOU bundled customers pay a higher generation rate that includes the above market costs resulting from older power contracts that are still active in the IOU's portfolio. Moreover, IOUs are left with excess power that was purchased before some of their customers departed for a CCA.

The PCIA addresses this excess power and estimates the price difference between the average portfolio cost of the utility and the current market value of electricity:

$$\text{Indifference Amount} = \text{IOU Portfolio Costs} - \text{Market Value}$$

The price difference is then charged to the customer per kWh. If the current energy price is below the average portfolio cost, the PCIA is positive and departing customers are billed every month for this.

Impact on Ratepayers and Concerns Among CCAs

The PCIA ensures that the remaining IOU ratepayers do not bear the costs of departing CCA customers. This is an important mechanism to protect customers who might not have the opportunity to choose their energy provider. However, the PCIA represents some risks for the future development of CCAs. As an example, MCE customers paid \$13 million in PCIA fees in 2014, \$19 million in 2015, and expected to pay \$43 million in 2016. According to those numbers, the PCIA represented approximately five percent of the overall electric bill in 2015 and up to 10 percent in 2016.

Unavoidable and Attributable

Assembly Bill 117 requires that energy contract costs are only recoverable through the PCIA if these costs are unavoidable and attributable to the customer.³⁶ To date, the CPUC has considered all contracts entered into by IOUs as both unavoidable and attributable, as no decision has prevented PCIA cost recovery at any time.

CCAs have contested whether these contracts are truly unavoidable, based on the fact that IOUs could anticipate more CCA departing customers and integrate the projected departing loads into their demand forecast. The CPUC has modified long-term procurement planning rules in 2014 in order to allow better communication between CCAs and IOUs: “The Commission has adopted an Open Season and Binding Notice of Intent (BNI) process to trigger the exclusion of potential CCA load from IOU bundled procurement”.³⁷ However, some IOUs indicate that they have failed to receive these “Binding Notices of Intent” from CCAs.

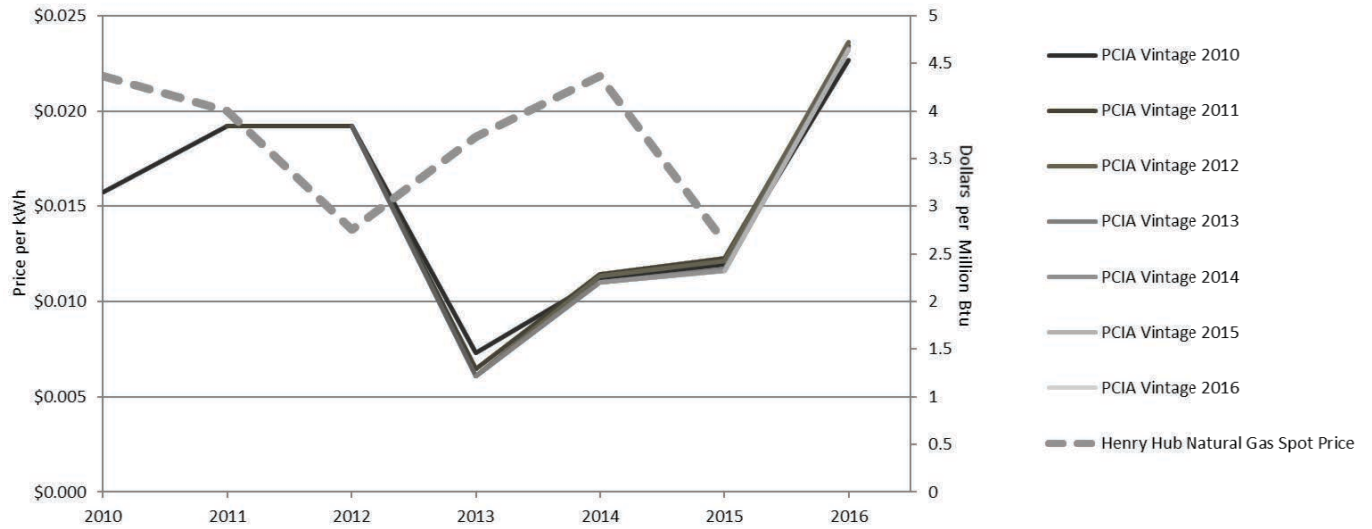
Volatility

Figure 9 illustrates the volatility of the PCIA charged by PG&E over time. The PCIA decreased by 62 percent from 2012 to 2013 and increased by 211 percent in the three following years. These important price variations can be hard to explain to new CCA customers and could result in lower customer retention in the future. This instability and unpredictability presents a difficult and costly management challenge for CCAs.

³⁶ Public Utilities Code Section 366.2(f)(2) and California Public Utilities Commission (2004) Decision 04-12-046.

³⁷ California Public Utilities Commission (2014). Decision 14-02-040: IOUs “shall estimate reasonable levels of expected Direct Access (DA) and Community Choice Aggregation (CCA) departing load over the 10-year term of the IOUs bundled plans, using information provided by the California Energy Commission and/or by a CCA in its Binding Notice of Intent. The IOUs shall then exclude this departing load from their future bundled procurement plans, and only procure for the assumed amounts of retained bundled load. Having been excluded from the bundled portfolio planning scenarios, the forecasted DA and CCA departing load shall not be subject to Power Cost Indifference Adjustment (PCIA) charges for any incremental stranded procurement costs incurred by the IOUs for the period after the date of departure assumed in their approved bundled plans.”

Figure 9. Historical PCIA Rate Compared to Natural Gas Prices³⁸



Transparency

The lack of transparency in the methodology of calculating the PCIA and in the energy portfolio of IOUs makes it difficult for CCAs to forecast the evolution of PCIA and integrate it into their energy procurement plan.

Treatment of Low-Income Customers

Low-income customers across all IOU territories are not exempt from paying the PCIA. In case the PCIA does keep increasing, it could become a more significant and disproportionate charge for low-income customers, as a percentage of their income.³⁹

Communication

Although the PCIA is mitigated by a lower generation rate, CCAs have expressed concern that this charge might be hard to understand for most customers, resulting in some customers opting out.

Policy Discussion

As more CCAs launch, more ratepayers across the state will be affected by the way these fees are calculated and billed. As stated by the Energy Procurement Vice President of SDG&E during the February 1st, 2017 "Community Choice Aggregation En Banc Hearing" organized by the CPUC, "67% of the load of SDG&E is looking at CCAs. All three IOUs could see up to 80 percent of the load departing across

³⁸ PCIA Rate Data from PG&E "Historical Rate Tables." Natural Gas Prices from Energy Information Administration. "Henry Hub Natural Gas Spot Price (Dollars per Million Btu)."

³⁹ PG&E rate comparison vs. SCE rate comparison

California.”⁴⁰ This raises the importance of finding the fairest solution for both bundled and unbundled customers.

The PCIA is essential to ensure that the remaining customers do not bear the cost of departing customers. As such, the PCIA serves an important purpose for old and long-term contracts that were imposed by the state in the early 2000s.

However, the PCIA may make less sense for recent contracts that are voluntarily signed and undertaken by IOUs between the feasibility study and the launch of a CCA. The California Energy Commission (CEC), the CPUC, and the IOUs already work together in order to better forecast CCA activities in California as part of their long-term energy supply planning (also known as the Integrated Energy Policy Report).

Policymakers must better define when these contracts are truly “unavoidable and attributable to departing customers,” as stated in the current legislation, and the role the prospective CCAs need to play in order to better incentivize all stakeholders. This could allow for a more predictable and stable PCIA that phases out over time.

Limiting the PCIA and ensuring an expiration date will also help to reduce inequality of treatment between CCA and other customers such as:

- Customers who depart one IOU service territory to move into another IOU service territory and do not get charged PCIA fees.
- Customers who move to a CCA’s territory from out of state, but end up paying the PCIA fees, despite the fact that IOUs never had to procure energy on their behalf.
- Customers who leave a CCA to go back to the IOU and do not have to compensate the CCA for the excess power.

Finally, to address the misconception that only CCA customers pay these costs and improve transparency, we suggest evaluating the prospect of including a representation on bundled customer bills of the legacy above-market costs associated with older contracts for renewable energy. This way, both bundled and unbundled customers have access to information on these shared costs.

In October 2018, the CPUC voted to approve the Alternate Proposed Decision, which is expected to result in an increase of the PCIA rates.⁴¹

Assessing Transmission and Delivery Fees

Today in California, customers pay a fixed electricity delivery fee, calculated based on the amount of kWh consumed every month, regardless of its generation location. These fees do not take into consideration the type of infrastructure needed to deliver electricity from the energy source to the customer, including distance and high-voltage transmission lines. This means that the electricity consumed by a customer will be charged the same “delivery fees” no matter if it was generated by rooftop solar panels across the street or by a power plant outside of the state. Some stakeholders see this as a serious market distortion that represents an impediment to incentivizing locally produced

⁴⁰ California Public Utilities Commission (2017). “Community Choice Aggregation En Banc Hearing.”

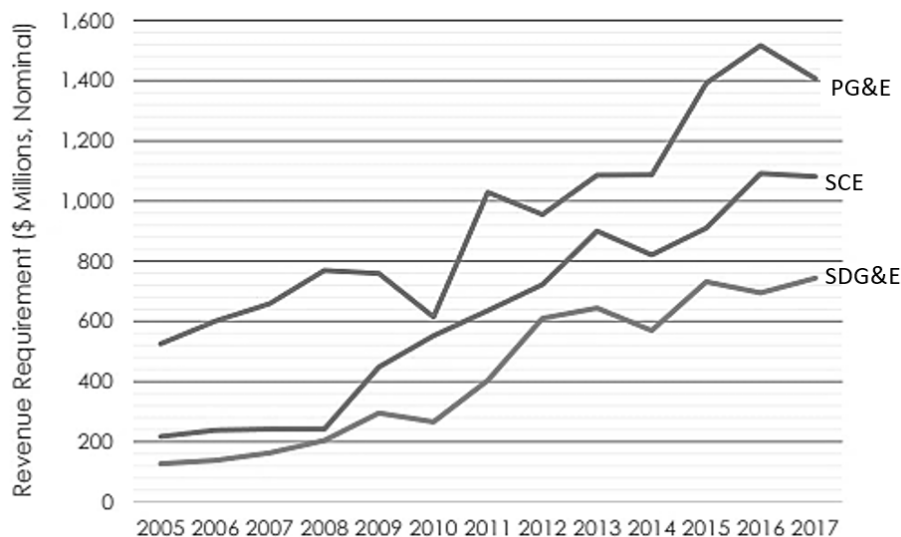
⁴¹CPUC (2018). “CPUC Ensures Changing Electric Market Is Equitable For Customers.”

electricity. This issue regarding what are known as Transmission Access Charges, is being deliberated in the context of prospective legislation.

Changes Occurring within Transmission and Distribution Services

With the proliferation of CCAs in California, the IOUs' business model is likely to change. For example, Clean Power Alliance, the Los Angeles and Ventura County CCA, expects to deliver around 3,100 GWh per year, which roughly represents a third of SCE's annual electric load for residential and commercial customers. Consequently, we believe that this decrease in revenues might constrain IOUs to focus more on transmission and distribution services over time. Figure 10 illustrates how the three main IOUs have increased their transmission revenue requirements since 2005. In 10 years, SDG&E transmission revenue requirements increased by approximately 400 percent, while SCE increased by 350 percent, and PG&E increased by 150 percent.

Figure 10: Trends in Transmission Revenue Requirements for Each of the Three Main IOUs



Source: California Public Utilities Commission (2018). "California Electric and Gas Utility Cost Report."

The CPUC reports that "these increases are driven primarily by CAISO [California Independent System Operator] reliability and RPS [renewables portfolio standard] mandates."⁴² Cost increases were historically triggered by the additional need for transmission due to an increasing number of new power plants.⁴³ However, these recent increases in transmission revenue requirements can also be explained by the necessity of "replacing and modernizing aging infrastructure, interconnecting new electric

⁴² California Public Utilities Commission (2016). "Electric and Gas Utility Cost Report." Page 18.

⁴³ Ibid.

generation, and compliance with updated North American Electric Reliability Corporation (NERC) requirements.”⁴⁴

Impact on Ratepayers and Concerns Among Stakeholders

Today, delivery fees represent approximately half of a ratepayer’s bill. In the future, those fees could take an even greater portion of the bill if the transmission revenue requirements keep increasing while renewable energy prices keep falling. Such a scenario could necessitate some policy changes regarding how transmission costs are distributed and borne by ratepayers, and whether or not a distinction between local sources and far away energy facilities needs to be taken into consideration when charging delivery fees.

This change would mean that distributed generation may become effectively cheaper than utility-scale installations built far away from cities. This shift could defer some grid upgrades and new transmission lines necessary to accommodate the construction of large renewable energy installations outside of urban areas. Moreover, this decision would strongly change the structural incentive toward local solar installations, which would benefit from lower delivery fees. Because CCAs generally focus on more local electricity generation, this may support CCAs and help them remain competitive.

5. Conclusion

After decades of deregulation and policy efforts, electricity monopolies are going to be less dominant in California due to the increasing number of CCAs. This new type of retail electricity service provider enables communities to make their own decisions about their own energy investments rather than relying on traditional IOUs.

On average, CCAs in operation offer a larger share of renewable energy than their affiliated IOU, ranging from five to 28 percentage points more in 2016. We estimate these efforts resulted in a total reduction of approximately 590,000 metric tons of carbon dioxide (CO₂) equivalent in 2016, which is the equivalent of \$7.5 million in reductions at the carbon price of \$12.73 on the statewide carbon market. Through our analysis, we found that continued development of CCAs supports California’s ability to surpass its 2020 renewable energy targets.

CCAs have been able to offer greener energy at a competitive price, due to a more flexible and lighter cost structure compared to their affiliated IOU. Importantly, CCAs have entered the energy market relatively recently, allowing them to benefit from a long decline of falling wholesale renewable energy costs. Most CCAs offer larger incentives than their affiliated IOU to households and businesses who self-generate energy through rooftop solar (net metering programs). Most CCAs have made the commitment to develop local energy resources and directly own local solar facilities. Moreover, as the IOUs who serve more than two thirds of the state face increasing competition over the next few years from CCAs, we believe that ratepayers across California could benefit from having more choice.

The future of California’s energy market will depend on many policy choices. Decision-makers should seek to ensure the development of CCAs while minimally affecting existing utilities and their ratepayers. A particularly important decision is how to allocate long-lived costs associated with IOUs complying with

⁴⁴ Ibid. Page 17.

past public policies in order to ensure fairness for both IOU and CCA ratepayers. A clear distinction between each stakeholder's responsibilities is crucial in order to avoid unnecessary cost shifting to CCA customers. While some CCA customers will be willing to pay more for cleaner power, community benefits, and the local control associated with CCAs, the ability of CCAs to retain more price-sensitive customers will be determined by how policymakers address these important questions.

Research in the future could involve in-depth case studies of specific CCAs. Such an analysis could inform how CCAs are evolving, their impact on ratepayers, and the factors that influence customer retention and loss. The framework created in this report could be built upon to further identify and then track progress on key metrics to assess CCA performances over time. As more areas of the state look to establish a CCA, it will also be important to inform issues of appropriate CCA size and scope. Finally, future research could address differences between the rules and regulations governing CCAs compared to IOUs and assess the implications of these differences.

Appendix A. Acronyms

CAISO	California Independent System Operator
CCA	Community choice aggregator
CO2	Carbon dioxide
CPUC	California Public Utilities Commission
DA	Direct Access
ESP	Electric service provider
FIT	Feed-in tariff
GHG	Greenhouse gas
GTSR	Green Tariff Shared Renewables
IOU	Investor-owned utility
JEDI	Jobs and Economic Development Impact
JPA	Joint powers authority
kWh	Kilowatt hour
LSE	Load serving entity
MMBTU	Million British thermal units
MtCO2e	Metric tons of carbon dioxide equivalent
MWh	Megawatt hour
NEM	Net energy metering
PAM	Portfolio Allocation Methodology
PCIA	Power charge indifference adjustment
PV	Photovoltaic
PX	Power exchange
RA	Resource adequacy
RPS	Renewables Portfolio Standard

Chapter 4

Charge It! **Investing in Public Charging** **Infrastructure in Southern California**

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In 2016, California passed Assembly Bill 197, a new law mandating greenhouse gas (GHG) emission reductions to 40% below 1990 levels by the year 2030. This target was an increase in reduction levels from the goal set in the earlier Global Warming Solutions Act of 2006 (California Senate Bill 32).² A key sector that will help the state meet its goal is transportation, which is responsible for an estimated 40% of statewide emissions.³ In order to help meet the GHG emission goal, Governor Jerry Brown signed two executive orders that established goals for electric vehicle (EV) adoption and for charging infrastructure. Executive Order B-16-2012 established a goal for 1.5 million EVs by 2025, and Executive Order B-48-2018 expanded this objective to five million EVs by 2030 and 250,000 charging stations by 2025.⁴ Based on a May 2017 update, the Southern California region had contributed 729,124 EVs and 31,443 public chargers as of September 2016.

In Southern California, the Southern California Association of Governments (SCAG) is the metropolitan planning organization (MPO) that spans 6 counties, 14 councils of governments (COGs), 191 cities and a population of more than 18 million.⁵ The Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375) set regional targets for GHG reductions and required that each MPO develop a sustainable communities strategy as part of its regional transportation plan.⁶ As the largest MPO in the country, SCAG has a vested interest in meeting the GHG reduction targets. SCAG's 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy Report, adopted in April 2016, encouraged the use of neighborhood electric vehicles and envisioned a regional charging infrastructure network to increase the vehicles miles traveled on electric power (eVMT) in order to decrease statewide emissions.

For the purposes of this chapter, we use councils of governments (COGs) as the main unit of regional governance for which to measure EV charging infrastructure progress. The SCAG region is comprised of 14 COGs. COGs exist as a way to address regional issues in finer detail.⁷ SCAG partners with

² Megerian, Chris, and Liam Dillon. 2016. "Governor Brown signs sweeping legislation to combat climate change." *Los Angeles Times*, September 8, 2016. <http://www.latimes.com/politics/la-pol-ca-jerry-brown-signs-climate-laws-20160908-snap-story.html>.

³ California Air Resources Board. 2017. "California Greenhouse Gas Emission Inventory 2017 Edition." <https://www.arb.ca.gov/cc/inventory/data/data.htm>.

⁴ Lazo, Alejandro. 2018. "California Gov. Jerry Brown Calls for Five Million Zero Emission Cars by 2030." *Wall Street Journal*, January 26, 2018. <https://www.wsj.com/articles/california-gov-jerry-brown-to-call-for-five-million-zero-emission-cars-by-2030-1516996404>; Office of Governor Edmund G. Brown. 2018. "Governor Brown Takes Action to Increase Zero-Emission Vehicles, Fund New Climate Investments." January 26, 2018. <https://www.gov.ca.gov/2018/01/26/governor-brown-takes-action-to-increase-zero-emission-vehicles-fund-new-climate-investments/>.

⁵ "About SCAG." *Southern California Association of Governments*. <http://www.scag.ca.gov/Pages/default.aspx>.

⁶ California Air Resources Board. n.d. "Sustainable Communities." <https://www.arb.ca.gov/cc/sb375/sb375.htm>.

⁷ NARC Building Regional Communities "Understanding Regionalism: What are COGs and MPOs?" https://www.saferoutespartnership.org/sites/default/files/pdf/Erika_Young_120612SRTSRegionalism.pdf

COGs to provide local governments with benefits and services that include data and information, geographic information systems training, planning and technical assistance, and sustainability planning grants.⁸

Policy Problem & Policy Question

SCAG has the opportunity to develop a regional framework to guide public and private sector investments and supports to COGs in order to expand EV infrastructure at the local level. While SCAG is interested in understanding where to expand charging infrastructure, it does not have evidence-based criteria that can guide charging infrastructure development in the region. In this chapter, we consider charging infrastructure and EV registrations as evidence to provide specific recommendations for how to prioritize planning regions within SCAG. Finally, we suggest which types of policy strategies SCAG should support to increase public charging infrastructure in the region in order to foster the growth of EVs.

Literature Review

There are five factors that explain how public chargers influence EV purchase and usage behavior.

1. Public chargers play an important role in expanding market share and increasing eVMT. They are an important charging source for longer-distance travel and a safety net for other charging options.⁹ Relying heavily on home charging is insufficient to meet the growth of EVs, and provides an impetus to invest in public EV charging stations.¹⁰
2. Public chargers are one way to expand EV usage.¹¹ Empirical work by Li et al (2017) confirmed that charging stations affected EV purchases, and vice versa, but that the impact of additional charging stations on EV sales was twice as large as the impact of EV sales on charging stations.¹²

⁸ "About SCAG: Our Members." *Southern California Association of Governments*. <http://www.scag.ca.gov/about/Pages/members.aspx>

⁹ Hardman, Scott, Alan Jenn, Gil Tal, Jonn Axsen, George Beard, Nicolo Daina, Erik Figenbaum, Niklas Jakobsson, Patrick Jochem, Neale Kinnear, Patrick Plötz, Jose Pontes, Nazir Refa, France, Tom Turrentine, and Bert Witkamp. 2017. "Considerations for the development of plug-in electric vehicle charging infrastructure for consumers - A review." *UC Davis Institute of Transportation Studies*. <https://phev.ucdavis.edu/wp-content/uploads/PEV-Infrastructure-Literature-Review-.pdf>.

¹⁰ Tal, Gil, Michael Nicholas, Jamie Davies, and Justin Woodjack. "Charging Behavior Impacts on Electric Vehicle Miles Traveled: Who Is Not Plugging In?" *Transportation Research Record* (2014), pp. 53-60. <https://doi.org/10.3141/2454-07>.

¹¹ Ibid; Bakker, Sjoerd and Jan Jacob Trip. "Policy options to support the adoption of electric vehicles in the urban environment" *Transportation Research Part D* 25 (2013), 18–23.

¹² Li, Shanjun, Lang Tong, Jianwei Xing, and Yiyi Zhou. "The Market for Electric Vehicles: Indirect Network Effects and Policy Design." *Journal of the Association of Environmental and Resource Economists* 4, no.1 (2017), 89-133. <http://www.journals.uchicago.edu/doi/abs/10.1086/689702>.

3. Compared to other incentive programs such as high occupancy vehicle access, parking incentives, toll or road charge exemptions, and road tax incentives, charging infrastructure has the greatest impact on EV demand.¹³ Lutsey (2015) quantifies the value of having a public charging network at about \$1,000 per vehicle in Los Angeles, while a more extensive charging network, like Portland's, is valued at \$2,000 per vehicle.
4. Public chargers alleviate consumer range anxiety, a major barrier to adoption of EVs.¹⁴ Installing more public chargers in places where there is high demand would therefore increase the benefits of these chargers because drivers spend less time and effort driving and searching for chargers.¹⁵
5. Range and refueling availability are the two primary concerns for mainstream users. Improving battery range and refueling availability are critical for these users to continue using EVs and purchase more EVs in the future.¹⁶ Success depends on improving battery range, as well as deploying the public charging infrastructure that allows for future technological improvements to have a greater impact.¹⁷

Data Sources

We consulted qualitative and quantitative data sources to help us understand the historic investment in public charging infrastructure and EV adoption for the 14 COGs within the SCAG region. PlugShare provided charger data, and IHS Automotive provided EV registration data. Our data cover 2011-2016 and were aggregated by COG and normalized by population (per 10,000 residents). We use three main criteria and evaluate a COG's readiness and progress in EV deployment:

Through a simulation model, they find that the federal income tax credit program was responsible for about 40% of the increase in EV sales from 2011-2013. If the same funds were used to build more charging stations, it would have double the effect on EV sales.

¹³ Hardman, Scott. 2017. "Recurring and Indirect Incentives for Plug-in Electric Vehicles - A Review of the Evidence." *UC Davis Institute of Transportation Studies*. <https://phev.ucdavis.edu/wp-content/uploads/2017/10/reoccurring-incentives-literature-review.pdf>.

¹⁴ Haddadian, Ghazale, Mohammad Khodayar, and Mohammad Shahidehpour. "Accelerating the Global Adoption of Electric Vehicles: Barriers and Drivers." *The Electricity Journal* 28, no. 10 (December 2015): 53-68. doi:10.1016/j.tej.2015.11.011.

¹⁵ Ibid

¹⁶ Hardman, Scott, Eric Shiu, and Robert Steinberger-Wilckens. "Comparing high-end and low-end early adopters of battery electric vehicles." *Transportation Research Part A: Policy and Practice* 88 (June 2016): 40-57. doi:10.1016/j.tr.2016.03.010.

¹⁷ Lin, Zhenhong, and David Greene. "Promoting the Market for Plug-In Hybrid and Battery Electric Vehicles." *Transportation Research Record: Journal of the Transportation Research Board* 2252 (2011): 49-56. doi:10.3141/2252-07.

Zhou, Yan, Todd Levin, and Steve E. Plotkin. 2016. "Plug-in Electric Vehicle Policy Effectiveness: Literature Review." *U.S. Department of Energy, Argonne National Laboratory, Energy Systems Division*. <https://www.anl.gov/energy-systems/publication/plug-electric-vehicle-policy-effectiveness-literature-review>.

1. Local Policy Supports: Readiness Plans, Permitting/Regulations, Incentives
2. Existing Infrastructure
3. Access

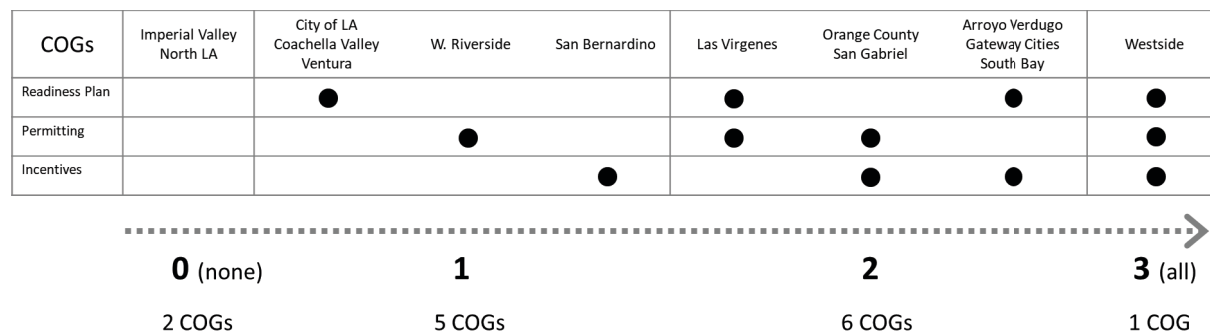
For each variable, we categorize COGs as being high or low priority. High priority COGs are ones with few existing policy supports, not enough charging infrastructure relative to EV use, and large geographic areas without access to public charging. These COGs need SCAG's support in implementing charging infrastructure.

Local Policy Support

The policy supports measure assesses a COG's capacity to implement charging infrastructure growth and maintenance strategically. We measured this capacity based on whether they have readiness plans in place, expedited permitting procedures and regulations for siting EV chargers, and whether there are incentives available for EV purchases or charger installation. A COG was deemed to have adequate local policy supports if it demonstrates sufficient readiness plan(s), processes that expedite building charging station infrastructure, and incentives that encourage EV purchases or charging station installations.

COGs differ greatly in the policy supports they have in place. Half the COGs have two or more types of support, but only one COG, the Westside Cities COG, had all three types in place. We would thus prioritize the two COGs with no supports in place: Imperial Valley and North LA. **(Figure 1).**

Figure 1: Local Policy Supports

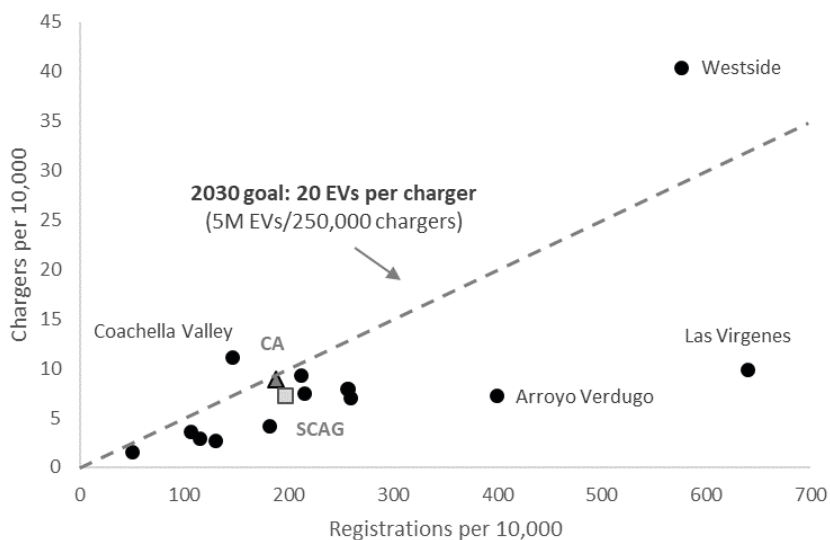


Existing Infrastructure

We compared the number of chargers with EV registrations to determine how COGs are building charging capacity for the current EV ownership in their regions. The COG's registrations-to-chargers ratio is calculated and evaluated against an "optimal" ratio. To our knowledge, there is no research definitively quantifying the "optimal" ratio, so we used the "optimal" ratio of 20 registrations-to-chargers, derived from the 2030 goal to have 5 million EVs and 2025 goal of 250,000 public chargers. We calculated this ratio for the most recent year we have data (2016). A high mismatch ratio occurs when there are more than 20 EVs for each public charge point.

Figure 2 plots the ratio of each COG relative to the "optimal" ratio of 20 (diagonal line), with California's and SCAG's ratios for reference. The highest mismatch ratios (over 50) occur in Las Virgenes and Arroyo Verdugo, where over 50 EVs are vying for each publicly available charger. Twelve COGs fall short of the statewide goal, and we prioritize the COGs with a charger-to-registration ratio below 20 (below the diagonal line).

Figure 2: Scatterplot of Chargers and EV Registrations per 10,000 Residents



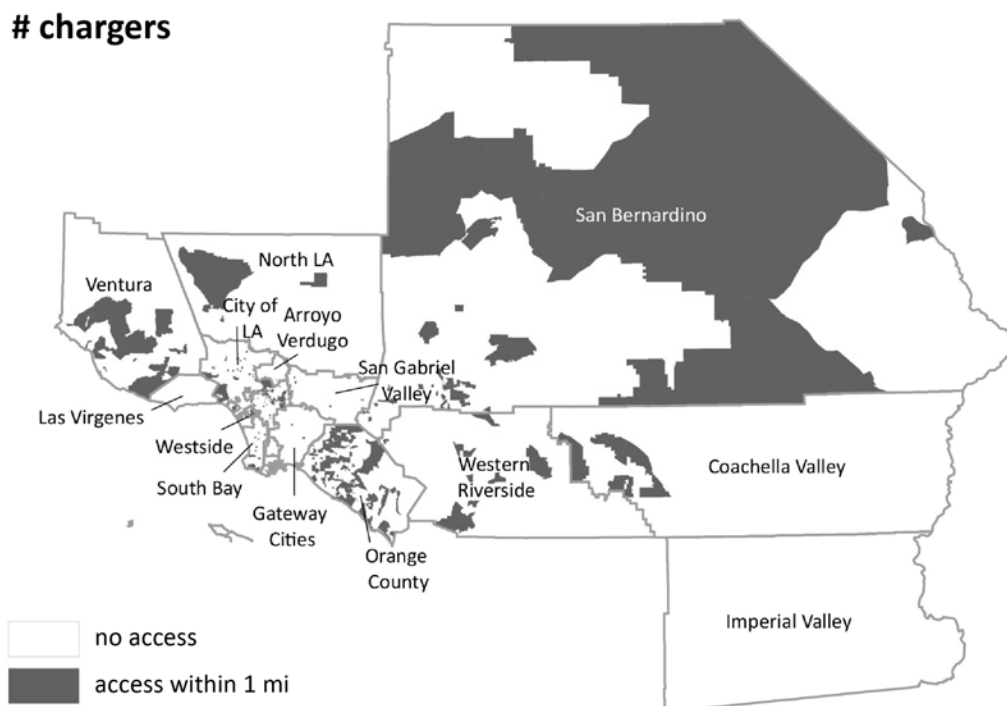
Access

Low-to-moderate income households may rely on public charging more if they own a short-range EV, a more affordable option within the EV fleet. Additionally, households that live in multi-unit

buildings, which do not currently support home-charging, face additional barriers in EV adoption.¹⁸ While public chargers will not be a persistent substitute for home-charging, our literature review reveals that public chargers located near where people live helps potential EV users overcome perception barriers of range anxiety.

Figure 3 shows access as measured by the number of chargers within one mile of a census tract. This one-mile access is geographically concentrated in certain areas within COGs, indicated by *where* and *how much* of the dark areas there are. All COGs, except Imperial Valley, have some areas that are highly accessible (with six or more chargers within one mile).

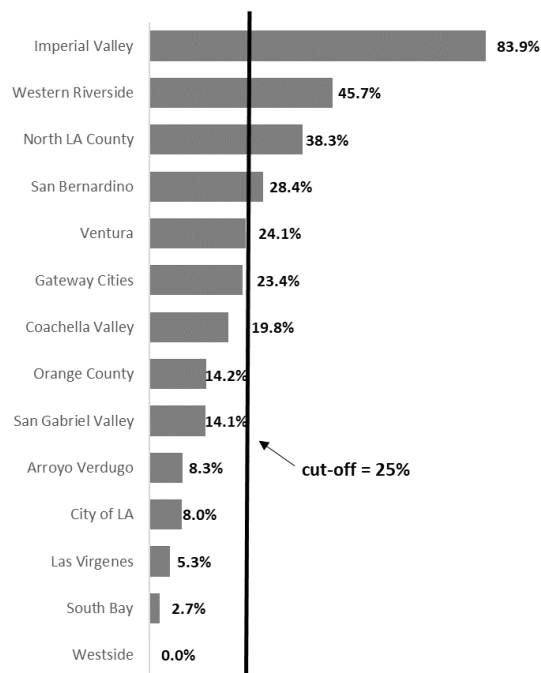
Figure 3: Public Charger Access Within One Mile



Given the variability across COGs, we calculate the proportion of tracts with no accessibility within one mile. In **Figure 4**, we prioritize the COGs (Imperial Valley, Western Riverside, North LA County, and San Bernardino) which have above-average inaccessibility levels.

¹⁸ Balmin, Judith, Greg Bonett, and Megan Kirkeby. 2012. "Increasing Electric Vehicle Charging Access in Multi-Unit Dwellings in Los Angeles." *UCLA Luskin Center for Innovation*.
<https://luskin.ucla.edu/sites/default/files/EV%20Charging%20in%20LA%20MUDs.pdf>

Figure 4: Proportion of Tracts with No Accessible Chargers by COG



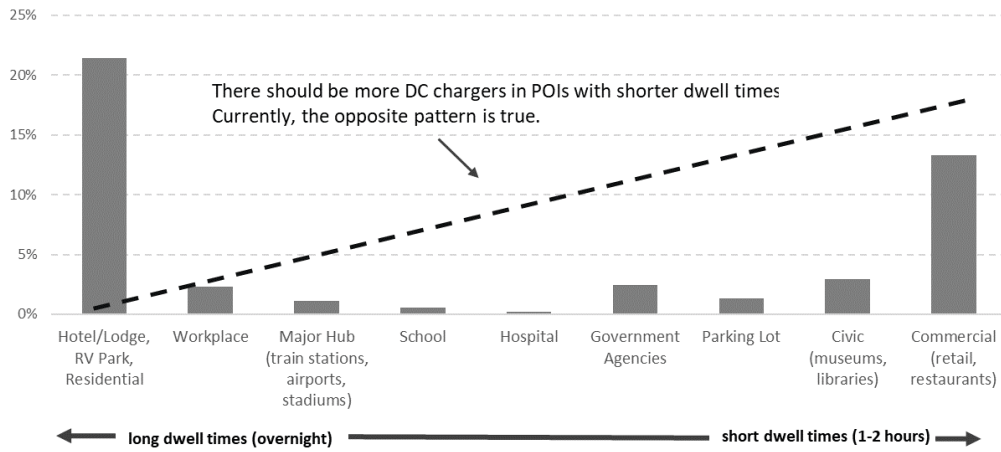
Charger Quality

Though charger quality is not an explicit criterion, we looked at the types of locations where the fastest chargers (DC chargers) were sited. If Governor Brown’s 2030 targets are met, DC fast chargers will make up 4% of all chargers, a small proportion of all chargers.¹⁹ Since DC chargers are able to provide full charge within 30 minutes, they play an important role for publicly available stations. It makes the most sense to locate new DC chargers in locations with shorter dwell times.

While a reasonable approach would be to locate DC chargers in locations with short dwell times, an analysis of the data tells a different story. **Figure 5** shows how DC chargers make up one-fifth of chargers at hotels, where vehicles are parked for long periods of time. There are more DC chargers in commercial spaces (places with short dwell times), but future DC chargers should be added to civic spaces, schools, hospitals, and government buildings.

¹⁹ Lazo, Alejandro. “California Gov. Jerry Brown Calls for Five Million Zero Emission Cars by 2030.” *Wall Street Journal*, January 26, 2018. Accessed February 6, 2018. <https://www.wsj.com/articles/california-gov-jerry-brown-to-call-for-five-million-zero-emission-cars-by-2030-1516996404>.

Figure 5: Proportion of DC Chargers by Point-of-Interest (POI) and Dwell Time



Policy Analysis

Based on our data analysis, we can identify the COGs that need the most support from SCAG. Table 1 shows how each COG performed on each criterion mentioned earlier, and COGs that scored the lowest are flagged as high priority. These are COGs with the least amount of policy supports, with a low charger-to-registrations ratio, and low levels of charger accessibility.

Based on our findings, we identified four COG groups. Each group needs a specific type of assistance, and tailored strategies to increase their charging infrastructure.

Table 1: Summary Table of Criteria Scores

COG GROUP

	Comprehensive Technical Assistance	Promote Local Policies & Encourage Access	Increase Infrastructure	Maintain Progress
	High priority across all criteria	High priority for "local policies" and "access"	High priority for "mismatch"	Low priority for all criteria
Develop Policy Supports	●	●		
Decrease Mismatch	●		●	
Expand Access	●	●		
COGs	Western Riverside North LA County	Imperial Valley San Bernardino	Gateway Cities Orange County San Gabriel Valley Las Virgenes Arroyo Verdugo City of LA	South Bay Ventura Coachella Valley Westside

● = High Priority

We summarize the types of support each COG should receive:

- Western Riverside and North LA County rank consistently among the *highest* priority COGs in each scenario. We suggest **comprehensive technical support** for these COGs.
- Imperial Valley and San Bernardino need **assistance with policy supports and access** to chargers.
- Gateway Cities, Orange County, San Gabriel Valley, Las Virgenes, Arroyo Verdugo and City of LA need further support in **expanding chargers** in their regions.
- South Bay, Ventura, Coachella Valley and the Westside COG consistently rank among the *lowest* priority COGs in each scenario. We suggest these COGs **maintain progress**.

Recommendation

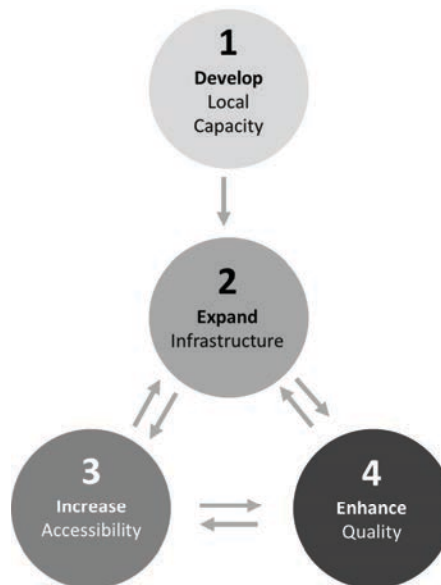
Our analysis lends itself to a tiered recommendation strategy. Based on the four COG groups, we tailored our recommendations to each COG group's underperformance in: (1) policy supports to support charging infrastructure, (2) chargers that meet the demand within the respective COG boundary (3) accessibility to chargers within COGs, and (4) charger growth for DC chargers.

Expanding the charging network requires different strategies at the COG level (**Figure 6**). COGs that require Comprehensive Technical Assistance would start with developing local capacity (Tier 1) before moving onto expanding infrastructure, increasing accessibility, and enhancing quality of chargers

(Tiers 2-4). At the same time, Tiers 2-4 interact with each other, and can be accomplished simultaneously. COGs that need to focus on increasing accessibility (Tier 3) might achieve that goal through expanding infrastructure (Tier 2), or surveying communities to understand if charging infrastructure is adequate (Tier 4). COGs that want to expand infrastructure (Tier 2) must do so in a way that keeps accessibility in mind (Tier 3).

Figure 6: Tiered Recommendations by COG Group

GROUP	POLICY STRATEGIES			
	Comprehensive Technical Assistance	Promote Local Policies & Encourage Access	Increase Infrastructure	Maintain Progress
	Develop Local Capacity	Develop Local Capacity	Expand Infrastructure	Enhance Quality
	Expand Infrastructure	Increase Accessibility	Enhance Quality	
	Increase Accessibility	Enhance Quality		
	Enhance Quality			



Lastly, we list some best practices and actionable items for COGs to pursue as strategies in Table 2. To develop local capacities, COGs could consider developing a readiness plan for EV rollout. To expand infrastructure, COGs could complete analyses of their region and where places of high public benefit are to place chargers. They could also increase accessibility by evaluating the areas where there are few

chargers. Finally, they could enhance the quality of their infrastructure by ensuring that stations provide all major connector types, and not just connectors for specific car models.

Table 2: Actionable Items for Each Recommendation

1	Develop Local Capacity	<ul style="list-style-type: none"> • Identify entities that can develop readiness plan. • Find public or private partners to establish EV incentive programs. • Follow-up meetings to monitor progress.
2	Expand Infrastructure	<ul style="list-style-type: none"> • Complete more extensive analysis of where chargers are located, associated points-of-interest (POI), and types of chargers and connectors. • Recommend POI.
3	Increase Accessibility	<ul style="list-style-type: none"> • Assess barriers in tracts that have no accessible chargers. • Determine strategies to expand access from within 2 miles to within 1 mile.
4	Enhance Quality	<ul style="list-style-type: none"> • Survey residents to understand whether charging infrastructure is adequate, or where more are needed. • Standardize connectors or require that charging stations must provide all major connector types. • Synthesize lessons learned and best practices for the region.

Given the unique capacities, priorities, and progress of each COG, SCAG could access its own capacity to provide tiered assistance to the COG groups. SCAG has one Director of Planning and Programs, and one Transportation Manager.²⁰ It should prioritize COG groups that have the least capacity, which includes the groups that have limited local policy supports. In many cases, assessing local capacity requires consideration of infrastructure expansion analysis, which includes an evaluation of accessibility. For this reason, we propose prioritizing Tier 1 recommendations for COGs that need the most assistance. If SCAG has additional capacity, it can move through the subsequent tiers.

²⁰ Southern California Association of Governments. Organizational Chart 2018. <http://www.scag.ca.gov/about/Documents/scagorgweb0218.pdf>

Conclusion

The analysis in this chapter provides SCAG with new criteria to assess its support to COGs for public charging infrastructure expansion and maintenance. Based on three criteria (local policy supports, existing infrastructure, and access), we recommend tailored policy strategies for each COG group. Western Riverside and North LA County should receive comprehensive technical support to develop policy supports, expand infrastructure, ensure accessibility, and enhance quality of chargers.

Imperial Valley and San Bernardino require guidance in policy supports, accessibility to chargers, and enhancing quality of chargers. Gateway Cities, Orange County, San Gabriel Valley, Las Virgenes, Arroyo Verdugo and the City of Los Angeles could benefit from guidance in expanding quality chargers in their regions. South Bay, Ventura, Coachella Valley and the Westside can maintain progress by checking on the quality of their chargers. While we include recommendations for all COG groups, we could prioritize technical assistance to ensure policy supports are in place for the following groups: Western Riverside, North LA County, San Bernardino, and Imperial Valley.

Glossary

Charger	An individual plug or outlet. There are usually several chargers, in the same charging station.
Charging station	Equipment used to recharge plug-in electric vehicles. Charging stations can have multiple chargers.
Council of governments (COG)	Regional planning entities that exist to work on regional issues at a finer detail. Unlike the metropolitan planning organization, they do not exist because of federal mandates. Within the metropolitan planning organization of SCAG, there are 14 councils of governments that work collaboratively with SCAG. In the highly populated Los Angeles County, there are seven COGs. In less populous counties, the COG may cover the entire county jurisdiction.
DC fast charger	Charger that uses direct current (DC) and provides the fastest recharge. It is used for corridor charging or places with a short dwell time. The three types of charging levels provide full charge over varying lengths of time: Level 1 (16 hours), Level 2 (3-4 hours), and DC (30 minutes).
Electric vehicle (EV)	A vehicle with a battery that can be recharged by plugging into an outlet. It is sometimes called PEV (plug-in electric vehicle). We include plug-in hybrids (which have combustible engines) and battery electric vehicles. EVs are a subset of the zero-emission vehicles, which also includes solar, hydrogen, or nuclear-powered vehicles.
Electric vehicle registration (EV registration)	We are interested in vehicle registrations for EVs. Registrations are identified at the census tract level.
Electric vehicle miles	The number of vehicle miles traveled on electric power.

traveled (eVMT)

**Greenhouse gas
(GHG)**

Gases emitted into the atmosphere, including carbon dioxide, methane, nitrous oxide, and ozone. Vehicles emit greenhouse gases, contributing to climate change.

**Metropolitan planning
organization (MPO)**

A federally-mandated entity that carries out regional planning, a major component being transportation. In California, MPOs are mandated to work on climate change planning. Our client, SCAG, is an MPO.

Point-of-interest

The type of location associated with a charging station. There are 28 of them in our data. Examples of these location types include airports, schools, parks, restaurants, retail, or office buildings.

Chapter 5

How Important is International Trade to Los Angeles?

William Yu

Economist, UCLA Anderson Forecast

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How Important is International Trade to Los Angeles?

William Yu
Economist, UCLA Anderson Forecast
March 2018

Los Angeles has the largest seaport in North America.¹ Its container cargo traffic – exports and imports combined – accounts for 1/3 of all cargo traffic in the U.S.² We can easily figure out that international trade is very important to the L.A. economy because it is the home of such a prominent seaport. In this report, we will (1) present further evidence of importance of trade to the L.A. economy, (2) examine how the trade is correlated with the U.S. economy, and (3) look at how trade impacts sector jobs in L.A.

However, it is worth noting that L.A. has never been the top seaport in terms of trade volume in the world. Figure 1 shows the top 30 seaports in terms of container cargo traffic measured by TEUs (Twenty-Foot Equivalent Units) in 2015. L.A. seaport (Ports of Los Angeles and Long Beach combined) ranked 10th in 2015 in terms of trade traffic. There is only one other U.S. port on the top 30 list, which is New York/New Jersey, shown in yellow. The top port in the world is Shanghai, followed by Singapore and Shenzhen. Indeed, there are five ports in China in the top ten busiest ports. That said, international trade should be even more important to China and other Asian countries than to L.A.

Figure 2 displays L.A. seaport traffic, in which the blue line represents the import cargo TEUs and the red line represents the export cargo TEUs. We can see that import

volume increased almost three times from 3 million TEUs to 8 million TEUs from 1996 to 2006. Then the Global Financial Crisis and the Great Recession disrupted international trade. Now, after 10 years of slump and recovery, the imports have finally surpassed their 2007 peak and are now nearing 9 million TEUs. Exports from L.A. increased from 2 million TEUs to 4 million TEUs from 1996 to 2008, but since 2008 have remained stagnant and are still below 4 million. The widened gap between imports and exports demonstrates the gigantic trade deficit between the U.S. and its Asian trading partners.

Los Angeles International Airport (LAX) is the second largest airport in the U.S. in terms of total passenger traffic and the fifth largest in terms of air cargo traffic. Figure 3 depicts air cargo freight through LAX, including both domestic and international traffic. The number of high-value air imports and exports and time-sensitive freights through LAX has seen a rapid recovery over the past years. Both have way surpassed their pre-recession peaks.

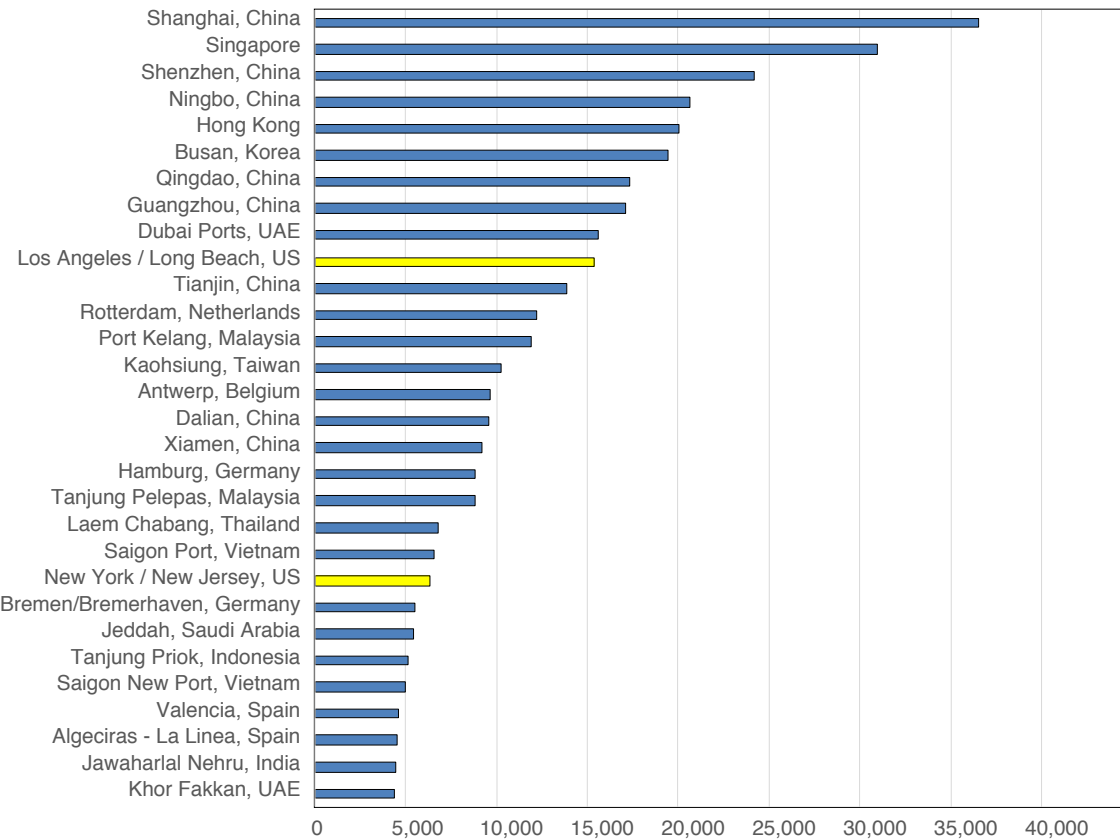
Figure 4 shows tremendous growth in domestic and international seasonally adjusted passenger traffic, including both arrivals and departures since early 2009 – from 51.7 million passengers in 2009Q1 to 87 million passengers in 2017Q4.

1. Here Los Angeles seaport includes both Ports of Los Angeles and Long Beach. It is based on container cargo volume from the American Association of Port Authorities 2015.

2. This figure is based on foreign container trade numbers by U.S. customs ports, put out by the Maritime Administration of the U.S. Department of Transportation 2015.

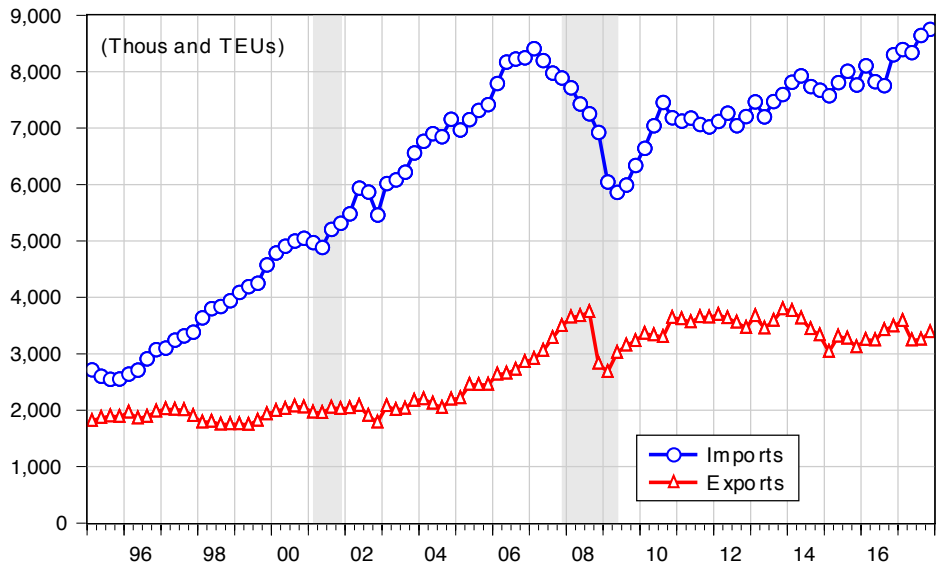
HOW IMPORTANT IS INTERNATIONAL TRADE TO LOS ANGELES?

Figure 1 The Top 30 World Ports by Container Traffic (Exports and Imports Combined; TEUs, Thousand), 2015



Source: American Association of Port Authorities

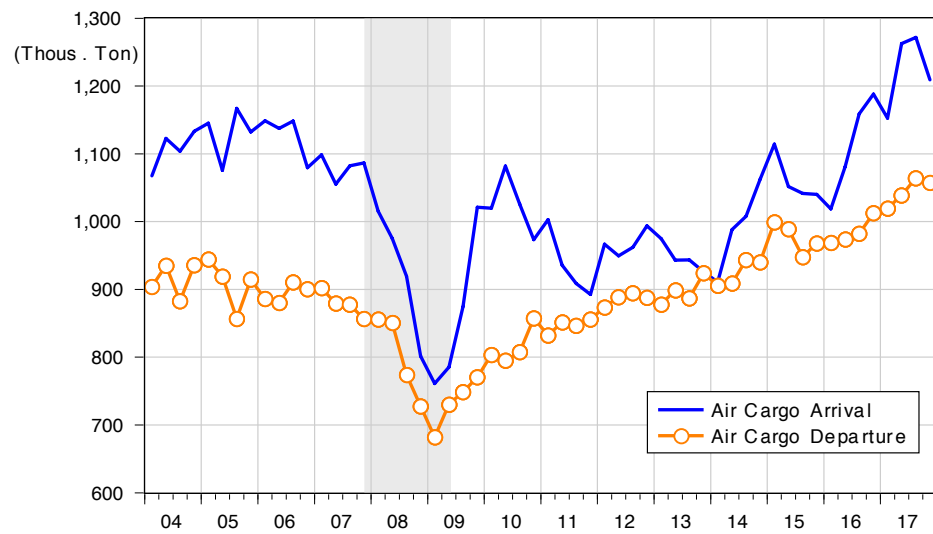
Figure 2 Los Angeles Seaport Traffic, Ports of Los Angeles and Long Beach Combined (Thousand TEUs, Annualized Seasonally Adjusted)



Sources: Ports of Los Angeles and Long Beach
Note: A "TEU" is a "twenty-foot equivalent," a standard shipping container

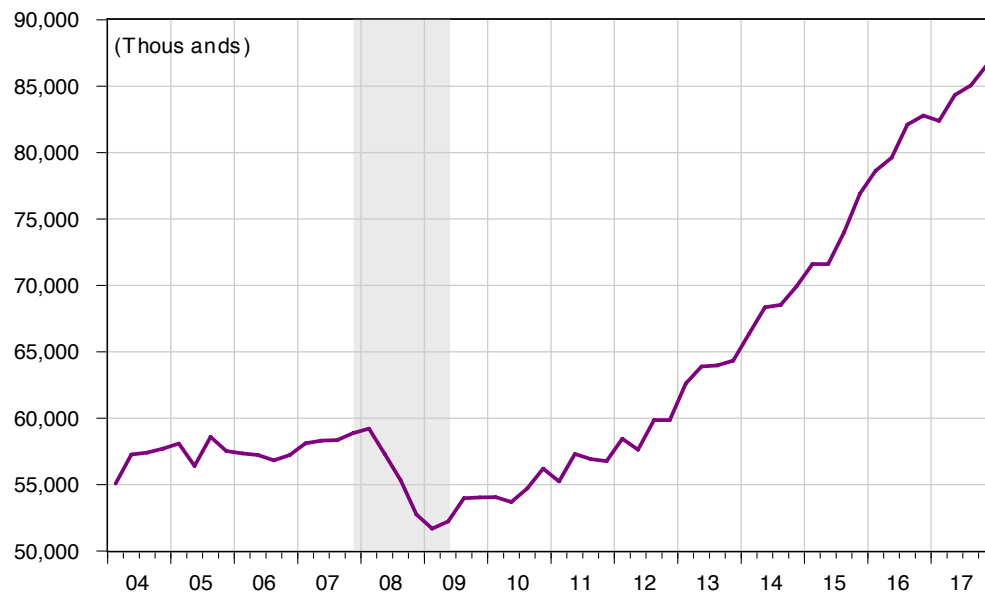
HOW IMPORTANT IS INTERNATIONAL TRADE TO LOS ANGELES?

Figure 3 Los Angeles Airport (LAX) Air Cargo Freights (Tons, Annualized Seasonally Adjusted)



Sources: LA World Airports

Figure 4 Los Angeles Airport (LAX) Passenger Traffic (Arrival and Departure Combined, Annualized Seasonally Adjusted)



Source: LA World Airports, for scheduled carriers only

The Correlation Between L.A. Trade and the U.S. Economy

With its prominent gateway location for seaport cargo, airport cargo, and airport passengers, it is likely that L.A.'s trade statistics are correlated to the U.S. economy for imports and exports through two channels: (1) When the U.S. economy is strong, Americans will buy and import more goods and services. (2) When the U.S. exports more goods and services, it directly contributes to more production, more GDP, and higher economic growth. In other words, we expect L.A. trade traffic to be positively correlated to U.S. economic growth. Here, we examine if this is the case.

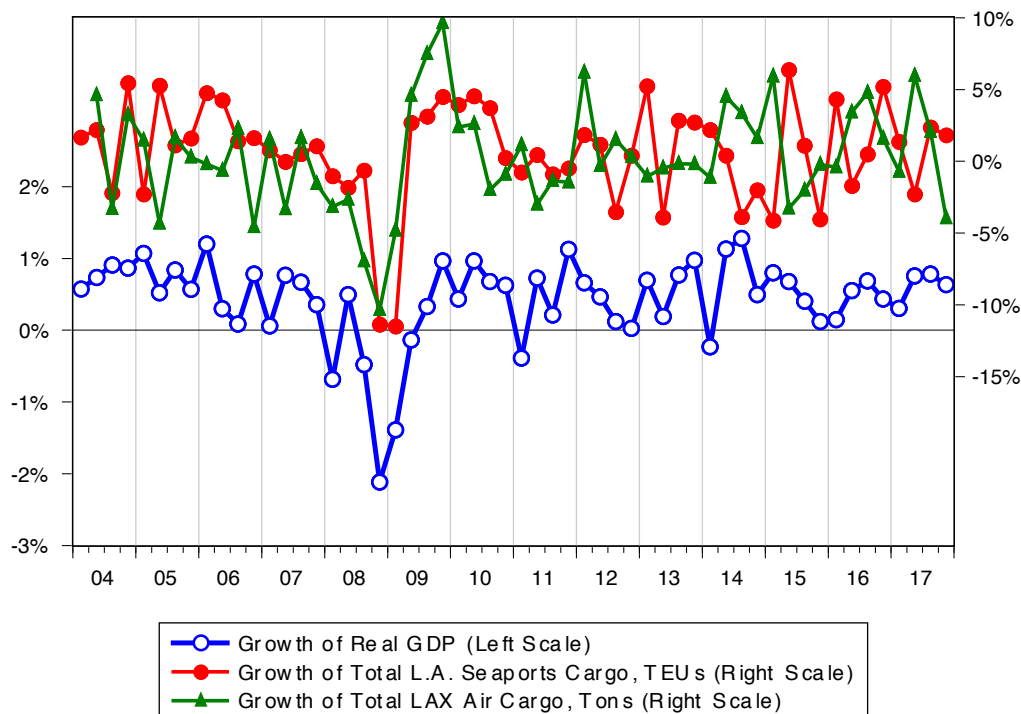
Figure 5 shows quarterly growth rates of U.S. real GDP (blue line, left scale), total L.A. seaport cargo traffic (red line, right scale), and total LAX air cargo traffic (green line, right scale) from 2004 to 2017. We can see some similar dynamics among these three series. For instance, from 2004 to 2007, growth rates slowed down and then slumped in 2008. The simple correlation between U.S. real GDP growth and total L.A. seaport container volume growth is 0.55 and

that between U.S. real GDP growth and total LAX air cargo volume growth is 0.48, meaning in both cases that there is a fair correlation.

Figure 6 shows the quarterly growth rates of U.S. real imports (blue line, left scale), L.A. seaport cargo traffic imports (red line, right scale), and LAX air cargo traffic imports (green line, right scale) from 2004 to 2017. The simple correlation between U.S. real imports growth and L.A. seaport container imports volume growth is 0.71, meaning these two activities are highly correlated and L.A. import growth is a great indicator of overall import growth in the nation. The correlation between U.S. real imports growth and LAX air cargo imports volume growth is 0.37, meaning these two activities are somewhat correlated, and therefore air cargo import growth is not as indicative of national import activity.

Figure 7 shows quarterly growth rates of U.S. real exports (blue line, left scale), L.A. seaport cargo traffic exports (red line, right scale), and LAX air cargo traffic exports (green line, right scale) from 2004 to 2017. Between U.S. real exports growth and L.A. seaport container exports

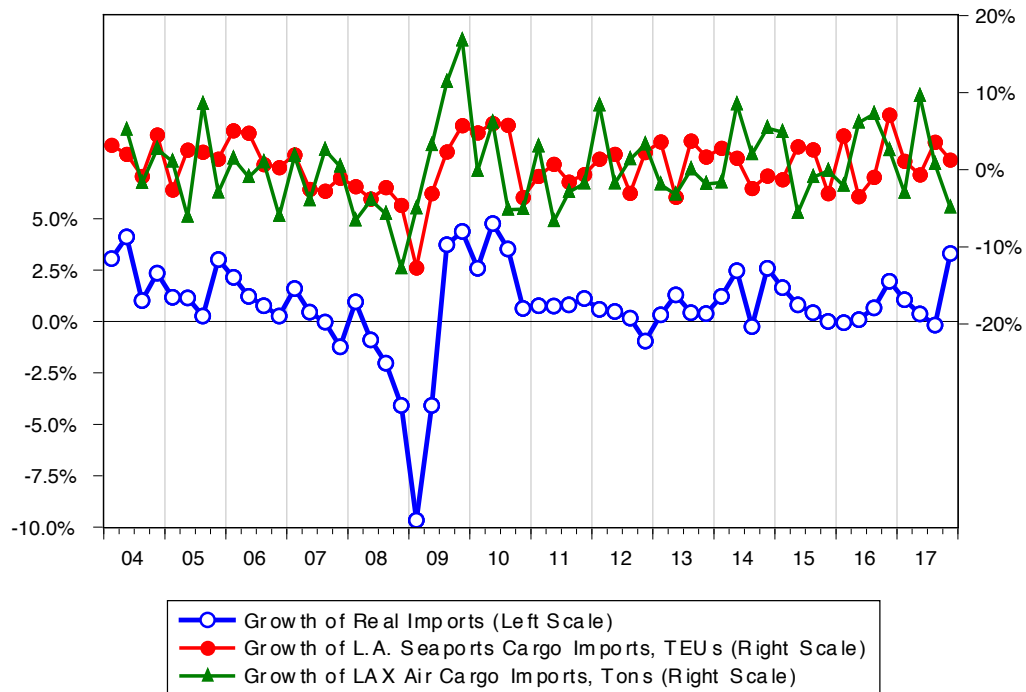
Figure 5 Quarterly Growth Rates of Real GDP, Total L.A. Seaports Cargo, and Total LAX Air Cargo



Source: Bureau of Economic Analysis, Ports of Los Angeles and Long Beach, and LA World Airports

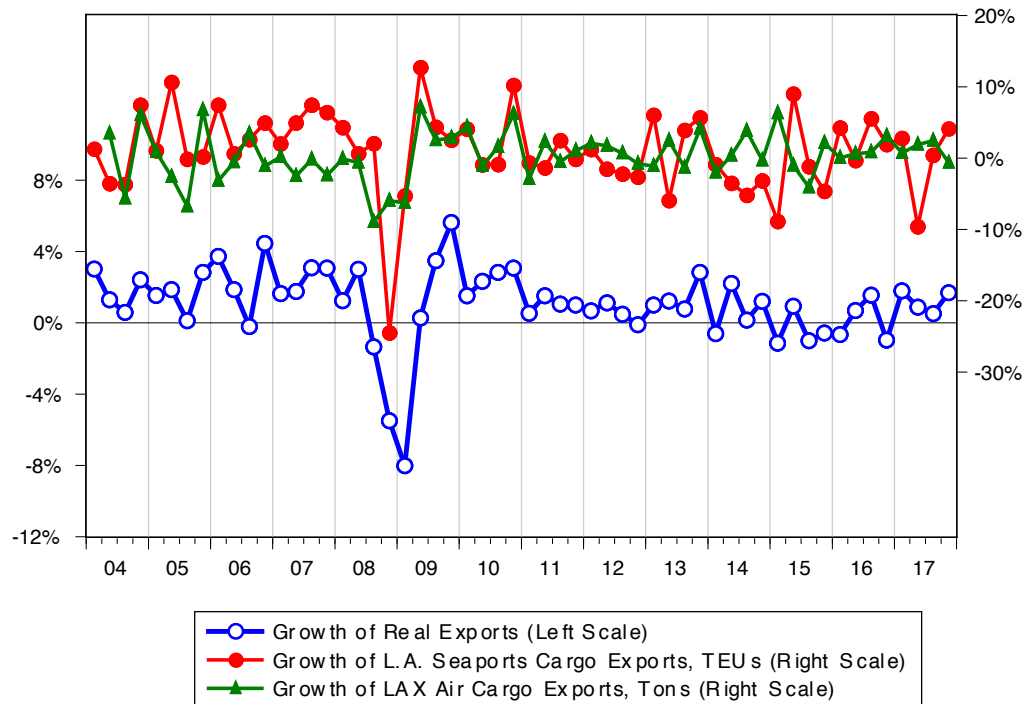
HOW IMPORTANT IS INTERNATIONAL TRADE TO LOS ANGELES?

Figure 6 Quarterly Growth Rates of Real Imports, L.A. Seaports Cargo Imports, and LAX Air Cargo Imports



Source: Bureau of Economic Analysis, Ports of Los Angeles and Long Beach, and LA World Airports

Figure 7 Quarterly Growth Rates of Real Exports, L.A. Seaports Cargo Exports, and LAX Air Cargo Exports



Source: Bureau of Economic Analysis, Ports of Los Angeles and Long Beach, and LA World Airports

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volume growth, the simple correlation is 0.56, meaning these two activities are fairly correlated. As with the imports, the correlation between U.S. real exports growth and LAX air cargo exports volume growth is 0.38, meaning these two activities are less correlated, although there is still a correlation. As a rule, L.A. seaport activity is more closely correlated to national trade activity than air cargo activity.

How Does International Trade Impact the L.A. Economy?

Now let's take a look at how international trade impacts the L.A. economy by its sector employment growth. We use a simple regression to examine the correlation between the two with the following equation for the annual growth rate from 2004 to 2017:

$$\text{L.A. Sector Payroll Jobs Growth Rate} = \alpha + \beta \times \text{L.A. Seaport Cargo Traffic Growth Rate}$$

Table 1 lists the summary correlation. The first two rows show that L.A. seaport cargo annual traffic growth is fairly correlated with U.S. (0.59) and L.A. (0.53) annual payroll employment growth.

For the L.A. sector employment correlations, we list them by the magnitude of correlation. We find that the retail trade (0.72), professional and business services (0.68), and wholesale trade (0.68) sectors are highly related to international trade activities, while the financial (0.55), manufacturing (0.51), construction (0.50), and transportation and warehousing (0.47) sectors are fairly related.

Note that as we mentioned in the previous section, L.A. seaport trade volume growth is highly related to the whole U.S. economic growth. Therefore, we cannot fully distinguish in Table 1 whether the responsiveness of sector job growth is driven by seaport trade or the U.S. economy as a whole. When we replace L.A. seaport cargo with LAX air cargo, the correlation decline significantly. This indicates that in terms of influence on L.A. local jobs, L.A. seaport trade is more important than LAX air cargo trade.

In contrast, L.A.'s information, leisure and hospitality, government, and education and health sectors are less related to international trade and the U.S. economy. As the world capital of the entertainment industry, L.A.'s information sector is naturally unique. The leisure and hospitality sector is much more related to passenger traffic than cargo. It is not surprising to see that the government sector is less related to international trade and the U.S. economy because

Table 1 Correlation Between L.A. Seaport Cargo Growth and L.A. Sector Job Growth

Total US or LA Payroll Employment	Simple Correlation	
Total US Nonfarm	0.59	
Total L.A. Nonfarm	0.53	
LA Sector Employment	Simple Correlation	% of Total L.A. Employment
Retail Trade	0.72	9.7%
Professional & Business Services	0.68	13.7%
Wholesale Trade	0.68	5.1%
Financial	0.55	5.1%
Manufacturing	0.51	7.9%
Construction	0.50	3.1%
Transportation & Warehousing	0.47	3.9%
Information	0.44	5.3%
Leisure & Hospitality	0.34	11.5%
Government	-0.17	12.9%
Education & Health	-0.38	17.9%

government engages in nonmarket activities and usually lag to business cycle. The education and health sector is related to aging demographics and the government's health care policies, making it less responsive to the business cycle.

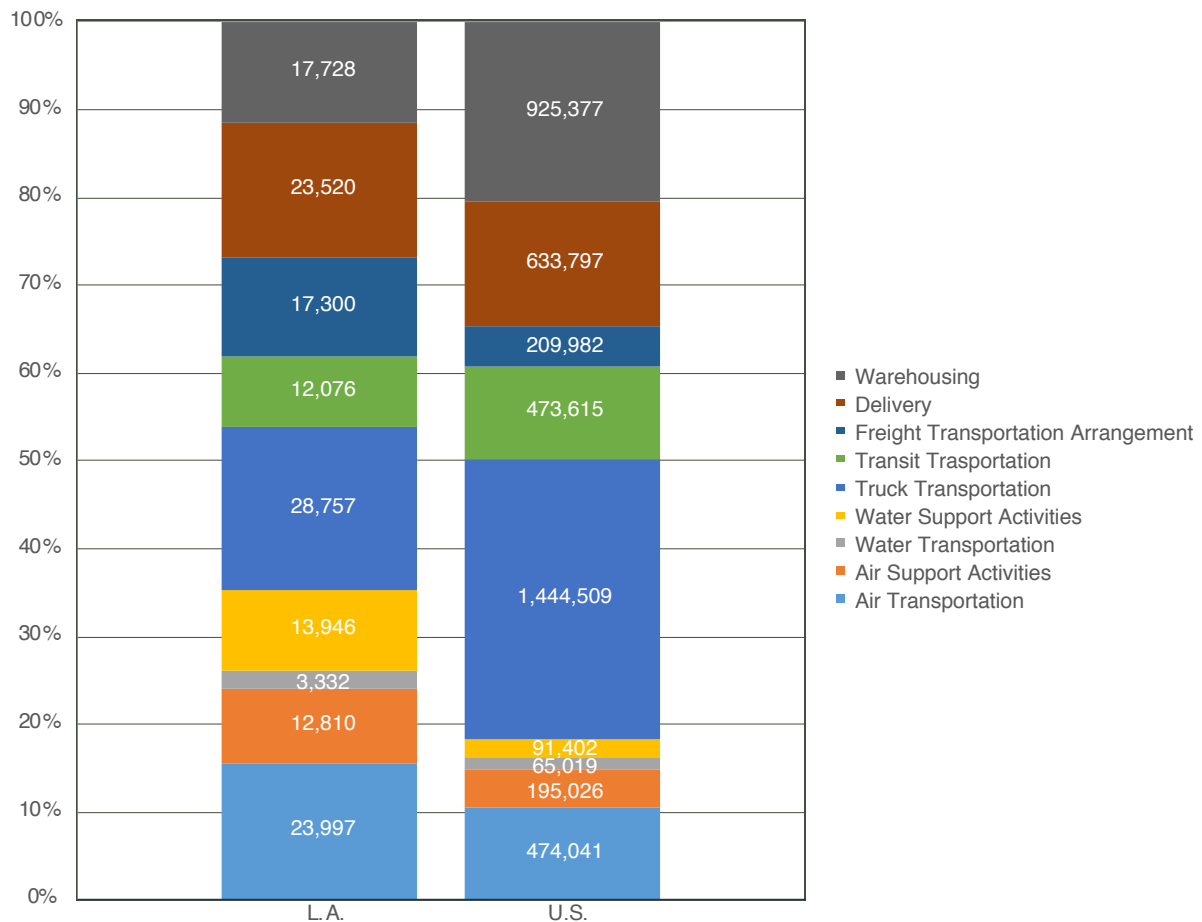
A Detailed Look at L.A. Transportation and Warehousing Sector Jobs and Wages

Before analyzing Table 1, we would assume that international trade should be mostly related to jobs in the transportation and warehousing sector and the wholesale trade sector in L.A. For the wholesale sector, indeed it shows a relatively high correlation. But it is a bit surprising to see that the transportation and warehousing sector is not that highly correlated. What is going on? Here we take a closer look at the components of the transportation sector.

Wholesale trade jobs (229,000) account for 5.9% of the total private jobs in Los Angeles County while wholesale jobs account for only 4.9% of the total private jobs in the U.S. as a whole. Transportation and warehousing jobs (177,000) account for 4.1% of total private jobs in L.A., while those same jobs account for 3.7% of jobs across the U.S. The numbers demonstrate that trade-related sectors have more weight in L.A. than in the nation due to the higher percentage of the workforce accounted for in each case.

Figure 8 shows the subsectors of jobs in the transportation and warehousing sector for L.A. County and the U.S. We can guess that air transportation and its support activities, water transportation and its support activities, and freight transportation arrangement are directly related to international trade through international airports and seaports. We see that these sectors hire a higher percentage of workers in

Figure 8 Sub-Sector Jobs of Transportation and Warehousing Sector, 2016



Source: Quarterly Census of Employment and Wages
 Note: The numbers in the graph are jobs.

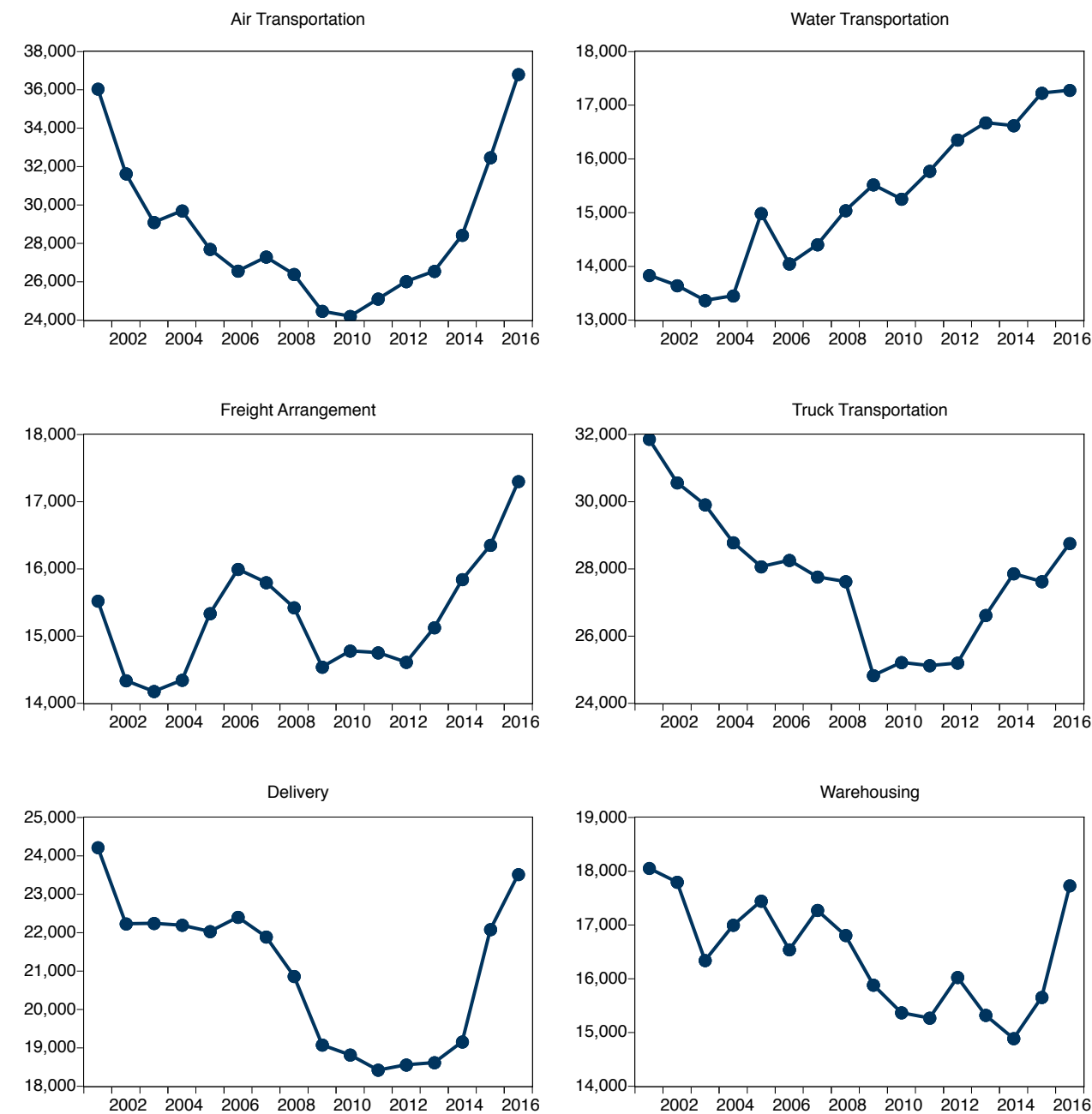
HOW IMPORTANT IS INTERNATIONAL TRADE TO LOS ANGELES?

L.A. than in the nation. Again, it echoes the idea that international trade is more important to L.A. than to the nation.

Figure 9 exhibits transportation and warehousing jobs by subsector in L.A County from 2001 to 2016, and Figure

10 presents those in the U.S. By looking at the dynamics of subsectors in Figure 9, we might be able to explain why the transportation and warehousing sector growth is not highly correlated to L.A. seaport cargo growth. Simply put, although the freight transportation arrangement, delivery,

Figure 9 Transportation and Warehousing Jobs in Los Angeles County, 2001 to 2016



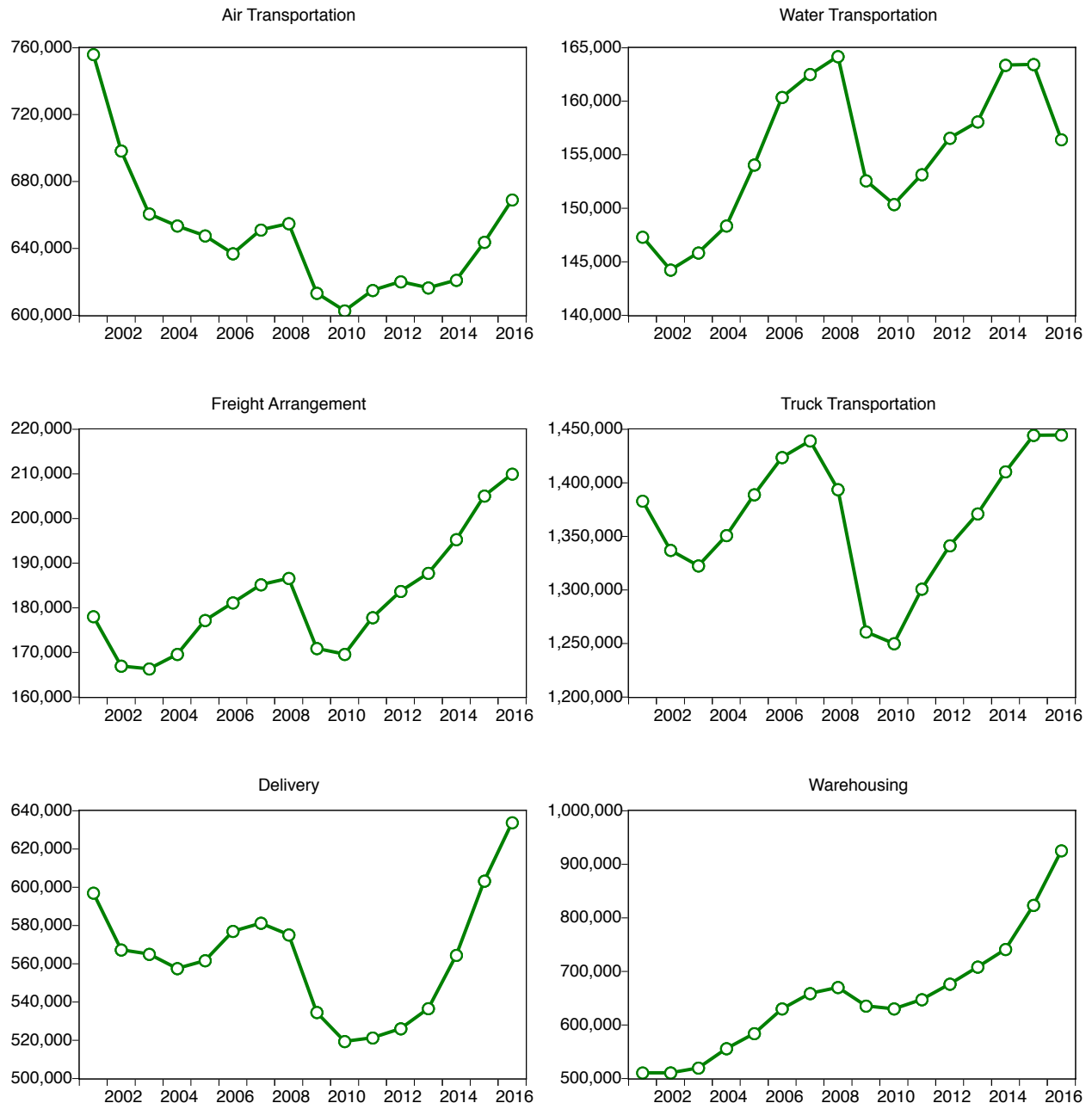
Source: Quarterly Census of Employment and Wages

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and warehousing subsectors do show a similar pattern with L.A. seaport cargo dynamics, the air transportation, water transportation, and truck transportation subsectors behave very differently. Since the sector includes these varying subsectors, the overall correlation will not be strong.

Let's look more closely at some of these divergent subsectors. Air transportation employment in L.A. has seen a soaring recovery over the past four years, surpassing its 2001 peak. The reason might be related to booming tourism and passenger traffic in L.A. (shown in Figure 4). No such

Figure 10 Transportation and Warehousing Jobs in the U.S., 2001 to 2016



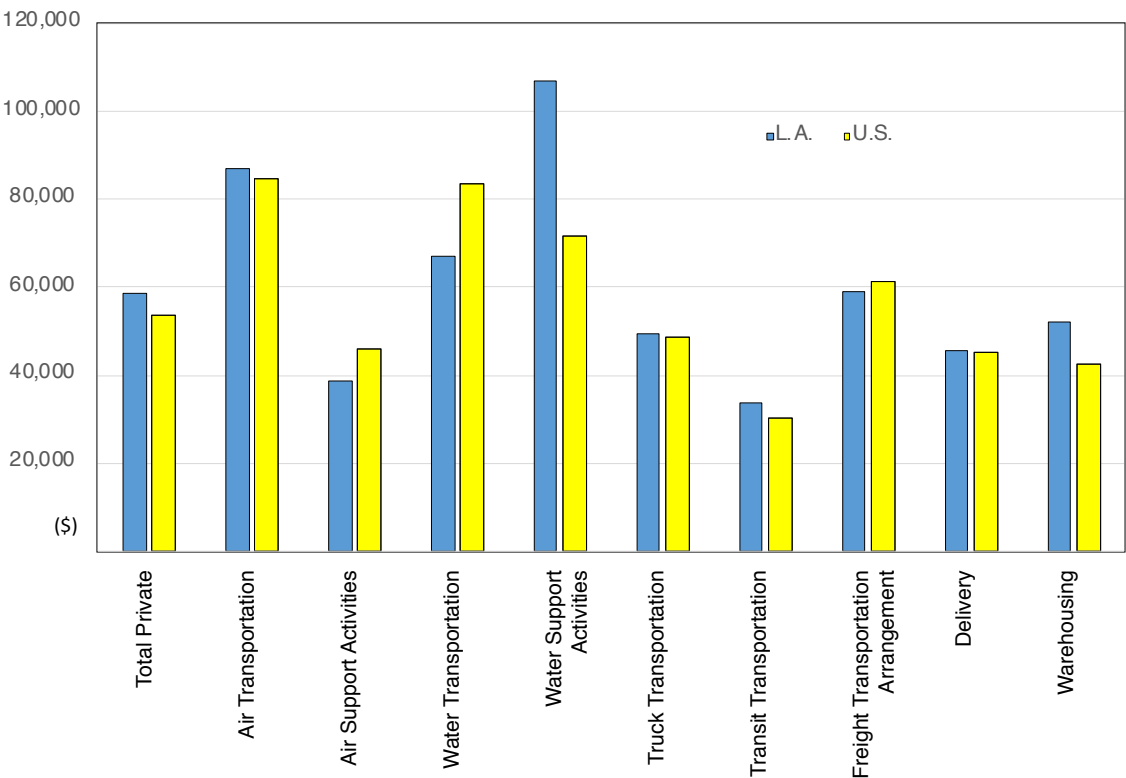
Source: Quarterly Census of Employment and Wages

reason presents itself for the water transportation subsector, however. Why have these jobs continued an increasing trend despite the global financial crisis and trade slump in 2008? It is unclear. The pattern is unique for L.A., though, because the pattern of water transportation jobs in the nation looks much more similar to the L.A. seaport cargo volume activity.

Despite its unusual patterns of L.A. water transportation jobs, it is clear that the growth and health of international trade is very important to L.A. because of its large and growing share of the total local jobs. Furthermore, it is worth noting that air transportation jobs and water transportation

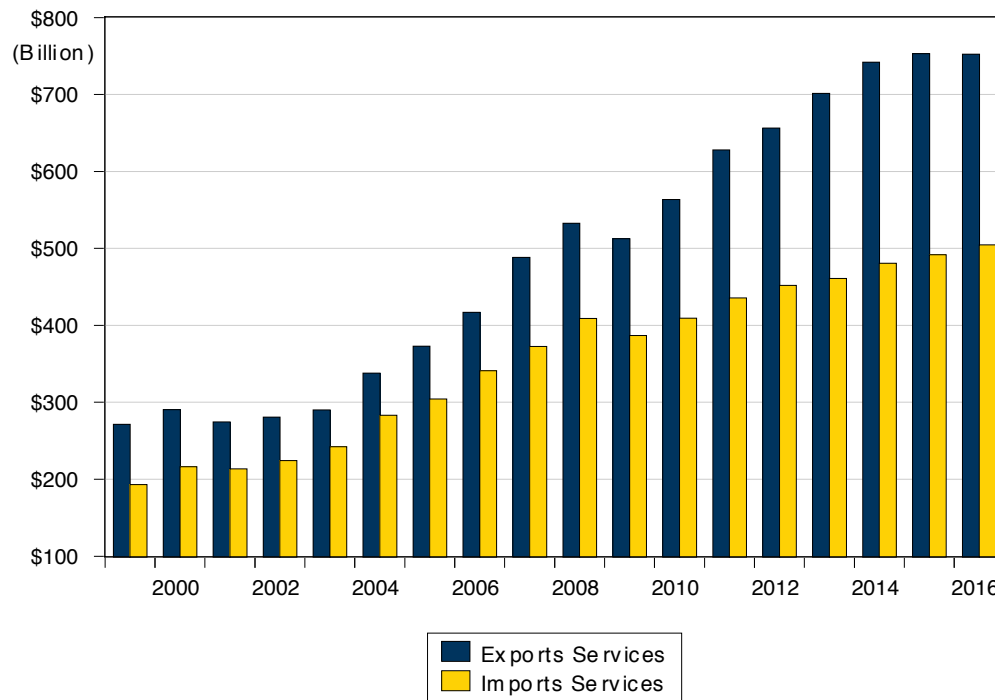
jobs in L.A. are very well paid positions, as shown in Figure 11. In L.A. in 2016, there were 24,000 air transportation jobs with an average annual wage of \$87,000 (total wage: \$2.1 billion) and 14,000 water transportation supporting activities jobs, e.g. dock workers, with an annual average wage of \$107,000 (total wage: \$1.5 billion). We believe that workers with high wages and salaries will create a bigger economic multiplier effect through their higher purchasing power. In other words, international trade will play a bigger role in the L.A. economy than in other parts of the country. L.A. benefits more from prosperous trade while it would suffer more from a trade war than would the nation as a whole.

Figure 11 Annual Wage in Transportation and Warehousing Sector by Its Subsectors in L.A. and the U.S., 2016



Source: Quarterly Census of Employment and Wages

Figure 12 Nominal Exports and Imports Services in the U.S., 1999 to 2016



Source: Bureau of Economic Analysis

Exports Services

Despite the chronic trade deficit as a whole and in tangible goods as illustrated in Figures 2 and 3, the U.S. in fact has had a trade surplus in services with the world for the past two decades as shown in Figure 12. Export growth will directly contribute to GDP growth. Figure 13 (next page) exhibits selected subsectors in export services in the U.S.: seaports, airports, travel and education, and intellectual property charges, including movie and TV program sales overseas. We can see mostly increasing trends over the past 16 years. Because of its prominent seaports and airports, balmy weather, and being the center of the world entertainment industry, we suggest that L.A. shares a bigger piece of the pie of these services exports, which shows once again how important international trade is to its economy.

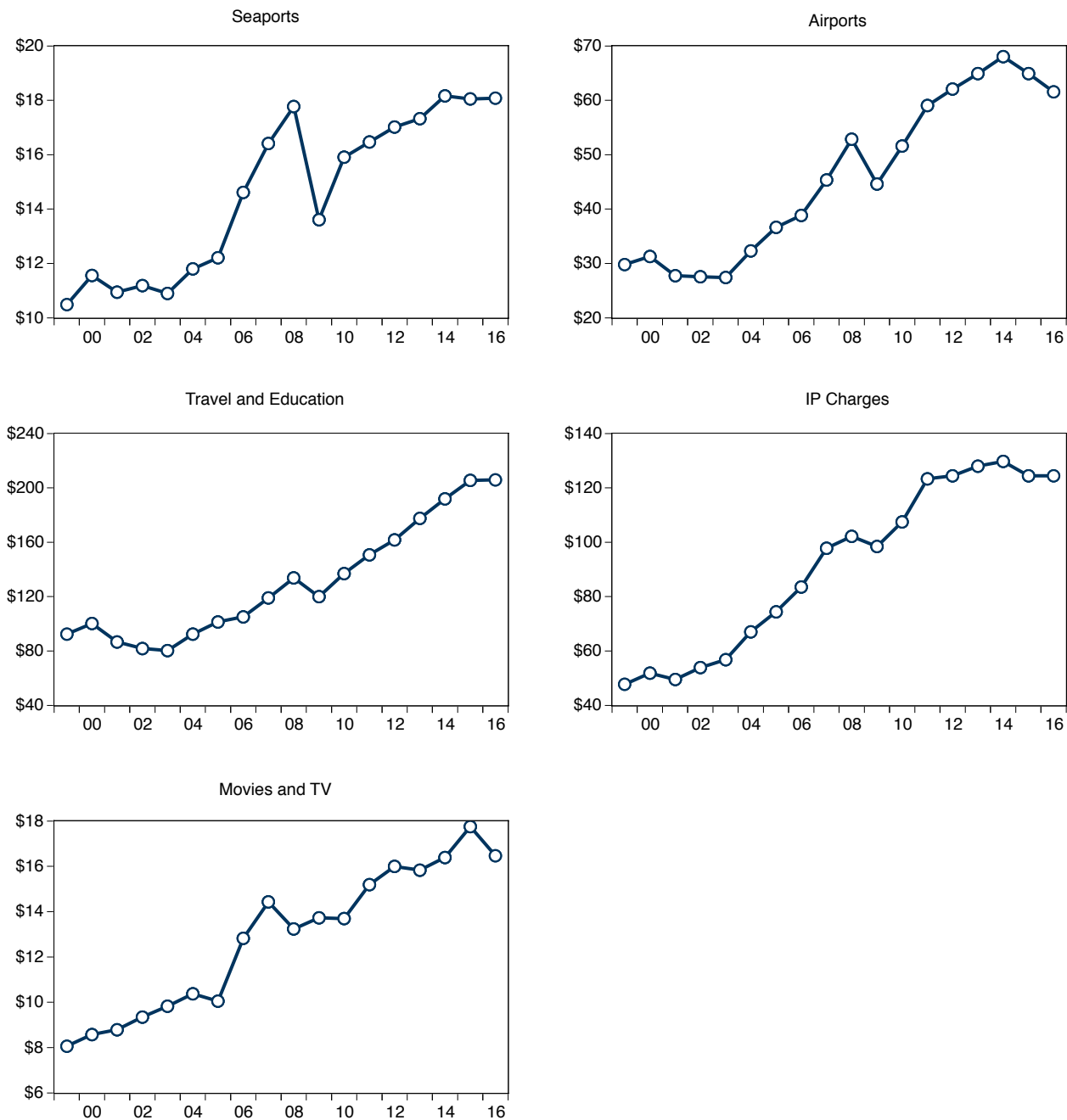
Conclusions

The takeaways of the report are as follows:

- Los Angeles is a prominent gateway city for seaports cargo, air cargo, and airline passengers. International trade is more important to the L.A. economy than to the nation's. L.A. will benefit more from prosperous trade while it will suffer more from a trade war.
- We find that both L.A. seaport and air cargo growths are useful indicators of the U.S. GDP growth. L.A. cargo import and export volumes are highly correlated to the nation's real imports and exports.
- International trade and the U.S. economy have differentiated correlations with L.A. sector job growth. The retail trade, professional and business services, and wholesale trade are more correlated to the international trade and business cycle than the education and health, and government sectors.

HOW IMPORTANT IS INTERNATIONAL TRADE TO LOS ANGELES?

Figure 13 Nominal Exports Services for Selected Subsectors in the U.S., 1999 to 2016, Billion Dollar.



Source: Bureau of Economic Analysis

Chapter 6

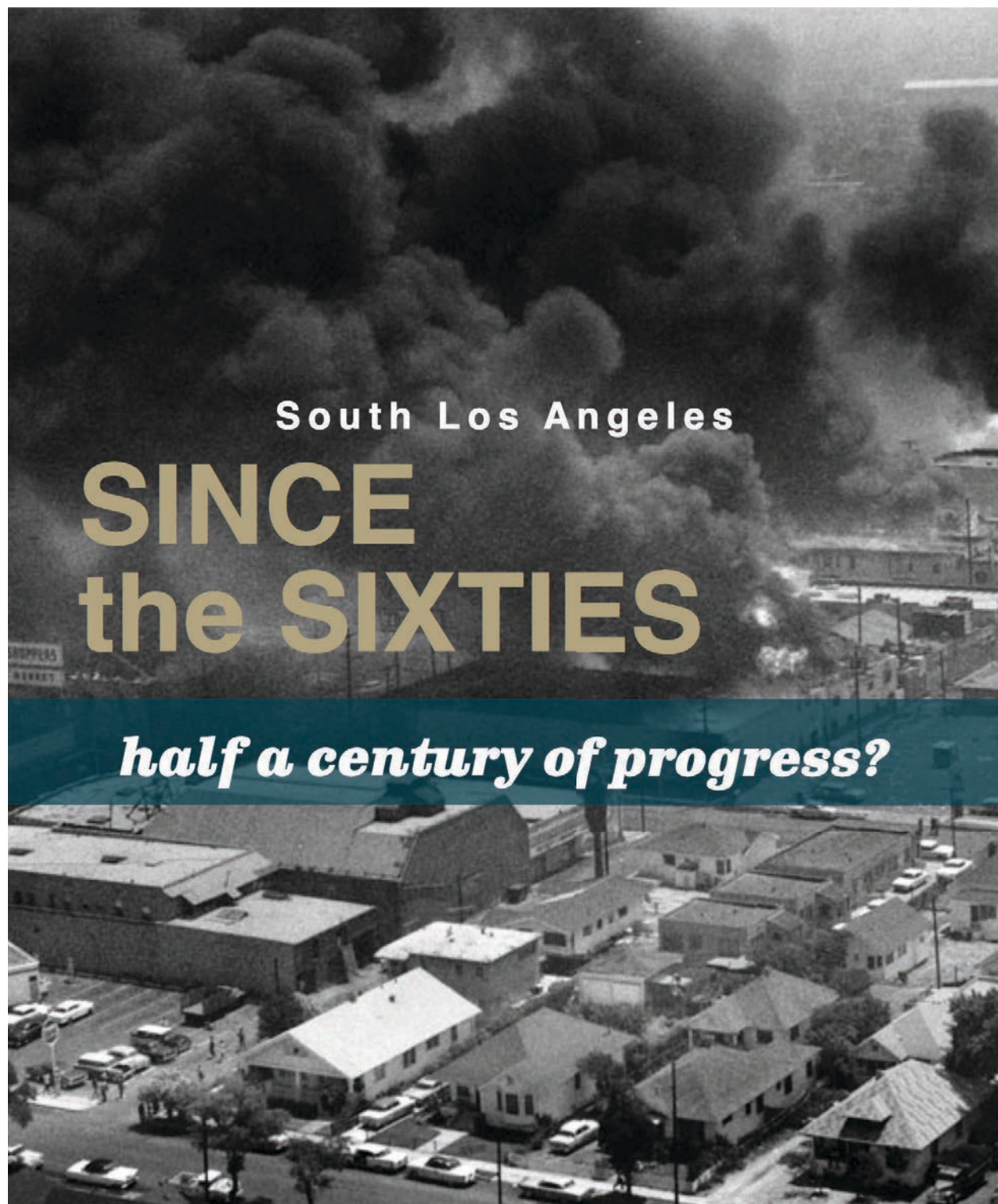
South Los Angeles Since the Sixties: Half a Century of Change?

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and Silvia R. González¹**

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"Buildings on Fire, Watts Riots" [Herald-Examiner Collection]/Los Angeles Public Library.

This chapter examines the socioeconomic changes in South Los Angeles since the Sixties to shed light on what, if any, progress has been made toward addressing issues of access, equity, and justice. The Sixties were filled with historical accomplishments and with promises for the future. It was also a time rife with discontent at the pervasive and persistent injustice many people of color experienced. This consequential decade set into motion both progressive and reactionary movements that define reality in South Los Angeles today.

Los Angeles was a major site of protest and expressions of discontent, as evidenced by the 1965 Watts Riot and the 1968 Chicano Blowout. Our chapter begins with an overview of the massive societal changes progressive and reactionary forces brought on in the 1960s. It introduces the context of South Los Angeles and evolution of inequality in the region. The next four parts examine the trajectory of South Los Angeles relative to the Los Angeles County along four dimensions over the last fifty years: employment and earnings, housing, transportation, and education.

The 1965 McCone and 1968 Kerner Commission reports provide a backdrop against which to evaluate change. The reports were commissioned in the aftermath of the Watts Riots and the ‘Long Hot Summer’ that rattled the nation. Those publications capture the sense of urgency to redress centuries of racism. The reports included extensive recommendations, and we summarize the most relevant at the beginning of each section. Their recommendations highlight the priority policy concerns of the time. We use these as reference points for tracing the changes over the following fifty years.

The 1960s

The 1960s was a pivotal period in our history. During this decade, our most enduring Civil Rights heroes and icons inspired generations of activism. Several seminal pieces of legislation were enacted: the Civil Rights Act of 1964, the Voting Rights Act of 1965, the Immigration and Naturalization Act of 1965 (which ended racially-biased immigration quotas), and the Fair Housing Act of 1968. At the same time, parallel movements outside of politics materialized: The Counter Culture movement beginning in 1967’s Summer of Love and peaking at Woodstock in 1969, the Anti-War movement, second-wave feminism, and the Third World Strike that ushered in ethnic studies at universities nation-wide.

It was a period of growing disenchantment with justice delayed. Material and economic improvements failed to match legislative gains, falling far short of rising expectations. This disjuncture and the resulting frustration boiled over in the form of massive urban unrest. The first major riot took place where few expected, in Watts. In a 1964 report by the Urban League on the socioeconomic status of Blacks, Los Angeles was ranked as the best among sixty-eight cities.

Physically, Watts, with its low housing density and open spaces, did not share many of the stereotypical images of an inner-city ghetto. It was relatively free from oppressive Jim Crow-style laws. The McCone Commission noted “in Los Angeles [...] there was a tendency to believe, and with some reason, that the problems which caused the trouble elsewhere were not acute in this community (3)”. Despite Los Angeles’s reputation as a “Black Mecca,” Watts was plagued by problems boiling below the surface. The riot resulted in 34 deaths, over a thousand injured, 4,000 arrests, and \$300 million in damage (in 2016 dollars), more than all other episodes of unrest in that year combined. Unlike the Kerner Commission, the McCone Commission recognized that many of the same issues also afflicted Latino neighborhoods.

“Buildings on Fire, Watts Riots” [Herald-Examiner Collection]/Los Angeles Public Library.

Two summers after Watts, the nation witnessed an explosion of unrest and rioting in mostly Black neighborhoods. Forty-one large scale episodes of disorder rocked 39 cities throughout the nation, with Detroit and Newark being the sites of highest intensity. The committee in charge of investigating the unrest counted 83 deaths and close to 2,000 injuries in addition to tens of millions in damages (estimates vary widely). In response to what would become known as the “Long Hot Summer,” President Lyndon Johnson’s Administration assembled the Kerner Commission in July 1967. Like the McCone Commission, it was called upon to conduct an inquiry into root causes and provide policy recommendations, only at the federal level.

The McCone and Kerner commissions exposed a society that was ignorant of the depth and extent of inequality. Johnson expressed a profound sense of disbelief, asking “How is it possible after all we’ve accomplished? How could it be? Has the world gone topsy-turvy?” (as quoted in Baradaran, 2017, 154).

However, this confusion betrays a detachment from the realities of many Black urban residents. “I doubt that a single Negro in Los Angeles would agree that conditions are improving,” James Baldwin observed at the time, “we don’t walk down the same street. [...] The real Negro leaders have been trying to speak to you for years.... You won’t listen” (as quoted in Joseph, 2006, 47).

LA since the Sixties

The risk of inaction is the development of an increasingly separate and deeply unequal society. But tragically, implementing the call for action by the McCone and Kerner commissions proved problematic. Addressing the socioeconomic crises in the inner city was not universally embraced, a response rooted in a broad reactionary movement against the events and social movements of the Sixties. The subsequent decade saw the emergence of Richard Nixon’s “Southern Strategy” of courting historically White Democratic voters by appealing to racial resentment among the “silent majority.” Over time, this countervailing movement embraced attacks on affirmative action and race-based equity policies, both in the courts and in politics.

South Los Angeles, because of its historical significance, illustrates stark inequalities better than most places. The rest of this chapter compares the socioeconomic status of this neighborhood for three time periods: 1960, 1990, and 2016. Each period corresponds to a key historical moment. The first time point, 1960, captures the rising unease with the status quo that relegated people of color to second-class citizens. It depicts the dire conditions that served as the context in which the altercation between a driver and a police officer would ignite the 1965 Watts Riots.

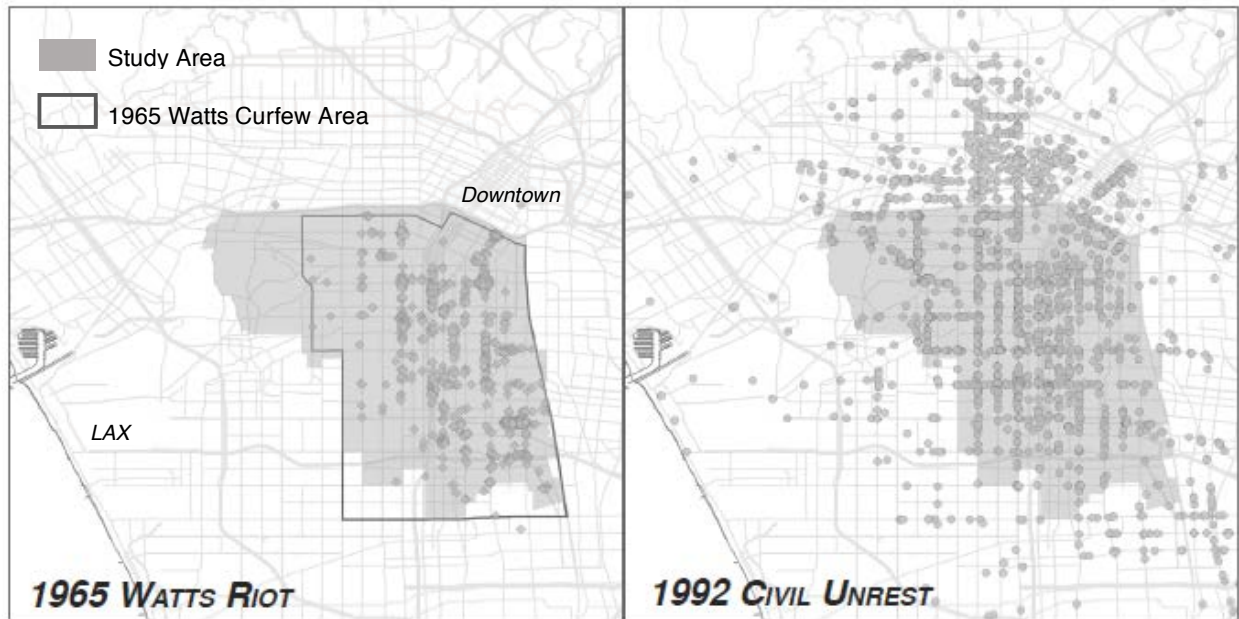


Figure 1: Mapping Aftermath

The above map (left) shows instances of damage and/or violence which took place during the Watts Riots. Thirty-four lives were lost, and 977 buildings were looted, damaged, or destroyed. Compared to the Watts Riot, recorded damages resulting from 1992's Civil Unrest (right) were more widespread. After several days of protest, 63 people had been killed and damages totaled upwards of \$1 billion.

The second time point, 1990, is roughly the midpoint of the analysis. Equally important, it is just two years before the 1992 Uprising in South LA. The acquittal of the police officers charged in the beating of Rodney King was the catalyst for that protest. Over five days, the Los Angeles civil unrest resulted in 50 casualties and upwards of a billion dollars in damage (UCLA Center for Neighborhood Knowledge, 2017). The maps on the Watts Riot and the Civil Unrest show the greater geographical extent of damages and violence in 1992 compared to 1965. This growth is indicative of a mounting frustration with persistent marginalization of the community and its people.

The most recent year of this study is 2016, giving us a measure of the present. The statistics reveal a continuation of the same socioeconomic inequalities that generated many of the anxieties and frustrations that gave rise to the 1965 and 1992 uprisings. Disparities in earnings among South LA workers have persisted, driving income inequality. At the same time, homeownership, a primary vehicle for wealth accumulation, remains low.

The community also has a higher concentration of low wage jobs than the County. Among other reasons, residents are, on average, less able to access higher quality jobs because of lower rates of automobile ownership. In the area of education, gaps in school performance between South LA and the most affluent neighborhoods of West LA have persisted. History taught us that continued socioeconomic marginalization and alienation were the root causes of 1965 and 1992. There has been no large-scale violence in Los Angeles over the last quarter century, but the findings should give us pause.



EMPLOYMENT

"Inside a Garment Shop" [Herald-Examiner Collection]/Los Angeles Public Library

Employment

McCone/Kerner Recommendations

- Job training and placement involving residents, employers, labor unions, and government
- Strengthen anti-discrimination institutions
- Increase public sector employment and incentivize job creation in private sector

The McCone Commission aptly captured the importance of employment and earnings: “The most serious immediate problem that faces the Negro in our community is employment—securing and holding a job that provides him an opportunity for livelihood, a chance to earn the means to support himself and his family, a dignity, and a reason to feel that he is a member of our community in a true and very real sense” (Governor’s Commission on the Los Angeles Riots, 1965, 38). At the same time, the Kerner Commission emphasized the role of underemployment in precipitating unrest. It noted “unemployment and underemployment are among the persistent and serious grievances of disadvantaged minorities. The pervasive effect of these conditions on the racial ghetto is inextricably linked to the problem of civil disorder” (U.S. National Advisory Commission on Civil Disorders, 1968, 413). The importance of employment to well-being makes it an important measure of progress; however, improvements in employment rates since the 1990s have failed to close the gap in earnings between South Los Angeles and the rest of Los Angeles County.

Racial discrimination is a persistent reason for labor-market disparities. The Kerner Commission was more forthcoming than the McCone Commission in addressing discrimination. It forcefully argued for removing any remaining barriers to equal employment, particularly in recruitment practices. Employers hire candidates based on skills and location, but are also influenced by race, gender, and ability as factors. Evidence points to employers relying on a racial ordering in their hiring practices that systematically disadvantages Black and Latino workers (Moses and Tilly, 2001).

In California, employment discrimination was legal until 1959. In 1946, Assemblyman Augustus Hawkins championed Proposition 11 to expand on the in-roads made by the federal government during World War II, but the proposition was defeated by a wide majority (HoSang, 2010). No other comparable effort would emerge until the 1959 California Fair Employment Practices Act, which prohibited discrimination in employment (Ward and Garrett, 1999).

The Kerner and McCone reports emphasized job readiness and training as key areas for policy interventions. While training is crucial, as the reports note, the main challenge is in reaching the population that would benefit the most and in matching them to employers. That approach parallels the courts’ greater willingness to address employment discrimination rather than to engage in affirmative action arguments. It has created a legacy of racial disparities in educational attainment, work experience, and networks, which have a multi-generational ripple effect. Further, because discrimination extended to union membership and on-the-job training, opportunities to remediate educational disparities were scarce. Immigration was limited in the 1960s, but it has been central to the economy of Los Angeles and South LA since then. In many ways, immigrant workers face similar constraints based on educational attainment and skills, but those are compounded by language ability and other signifiers of work culture assimilation (Ong, 2018).

Changes to the structure of the economy complicate the trends in employment and earnings. One of the major recommendations in both the Kerner and McCone reports was to incentivize the creation of more jobs in the private and public sectors. The evidence points to the inability of existing programs to account for the radical changes taking place in the economy. Figure 2, depicting labor force participation rates, shows that the gap with the County grew between 1960 and 1990. The changes in the local economy at the time left South LA with far fewer options. Over that period, available jobs and the earnings associated with those jobs began to polarize, with wages for high-skill jobs, requiring higher levels of education, growing at a far faster rate than those for low-skill labor. For South LA, the consequences of the loss in good-paying manufacturing jobs was especially pronounced. By 2016, the employment rate in South LA had improved, though it was still lower than in the County and lower than 1960 levels.

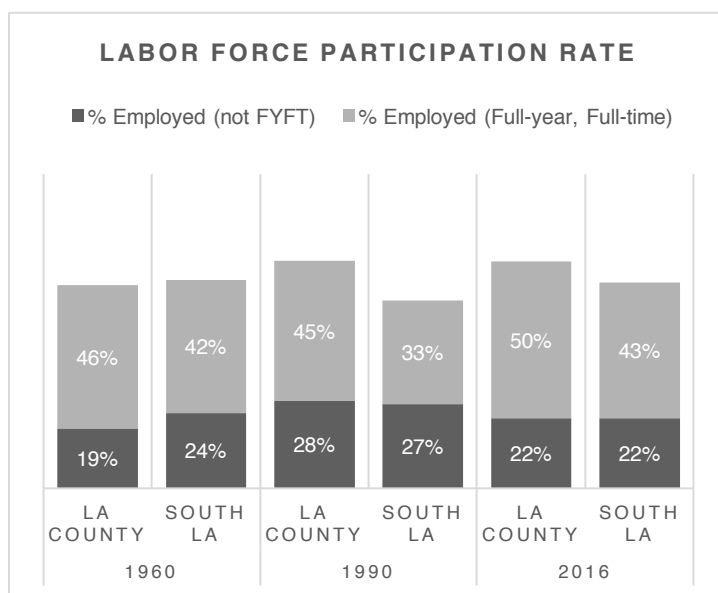


Figure 2: Labor Force Participation Rate

Full-year, full-time workers are those working at least 35 hours a week for at least 50 weeks out of the year. The gap between the LA County and South LA persists, but the employment ratio is at its highest since 1960.³

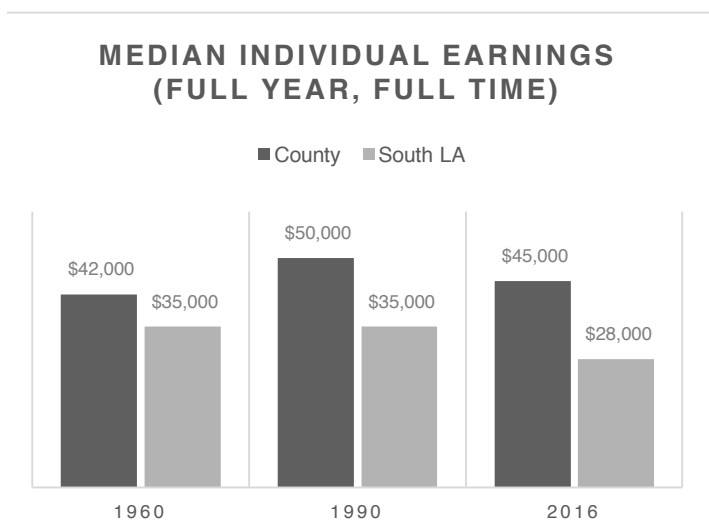


Figure 3: Median Individual Earnings

Earnings are the sum of wages and other compensations for employment. The decreasing trend in earnings reflects the increasing number of workers in low-paying jobs.

³ Percentages are cumulative. This is true for all other figures of this type.

For the County, the percent of adults working full-time, full-year remained stable between 1960 and 1990 before increasing to its highest level in 2016. Today, one in two individuals is working full-time. Employment in South LA dropped significantly between 1990 and 1960 so that one in three residents was working full time. The area improved over the more recent period, adding one full-time worker for every ten residents. However, the gap with the County remains significant.

One of the reasons for the failure to translate increasing levels of employment at the regional level to similar trends in South LA is the poor connections between the area and centers of employment (see Transportation section below). Residents must seek work elsewhere because South LA, where there is only one job for every two workers, is job poor. Most of the jobs in the immediate area are low wage as shown in the map on the previous page.

The disparities in the types of jobs available are compounded by unequal earnings. In 1960, South LA workers made 80 cents on the dollar, compared to the average County resident. Figure 3 shows a widening gap in median individual earnings. Today, the average South Los Angeles worker who is employed full time, earns about 60 cents on the dollar. However, this trend is not solely the product of differences in skills, knowledge, and experience. Comparing workers with similar job-preparedness, substantial differences in earnings remain. A large part of the disparity is associated with race and ethnicity, that is, workers are penalized for being people of color, even after accounting for educational attainment.

Beyond shifts in the composition of the labor force, the most stunning development is in the trend in male earnings. Male earnings have decreased dramatically in South LA since 1990. They are now lower, after adjusting for inflation, than they were in 1960. At the same time, female wages have increased such that the gap between men and women has nearly closed at the County level (see above figure). Comparing men and women's wages shows the extent of the drop in men's earnings, which is now below that for women.



HOUSING

"Neighborhood Friends" [Shades of L.A.: African American Community]/Los Angeles Public Library

Housing

McCone/Kerner Recommendations

- Ensure equitable access to financing and expand below-market interest rate programs
- Rent and ownership supplement programs
- Mass provision of low- and moderate-income housing units, including public housing, and encourage location outside ghetto areas. Needs to be paired with reforms of urban renewal programs and obsolete building codes

Deplorable housing was cited by the two commissions as a root cause of urban unrest. According to the Kerner Commission, for people of color “condemned by segregation and poverty to live in the decaying slums of our central cities, the goal of a decent home and suitable environment is as far distant as ever” (U.S. National Advisory Commission on Civil Disorders, 1968, 467). In Watts, “Houses are old and require constant maintenance if they are to remain habitable. Over two-thirds of them are owned by absentee landlords” (Governor’s Commission on the Los Angeles Riots, 1965, 79). Moreover, renters were financially over-burdened, often paying a “high proportion of their income” for shelter that “is more deteriorated than housing in the total country” (Governor’s Commission on the Los Angeles Riots, 1965, 79).

Both commissions prioritized rental housing in their recommendations. The Kerner Commission, in particular, focused on increasing the supply of rental housing by providing low-interest loans and subsidies to developers. Rental housing, which has been the dominant housing type in South LA, is crucial to the provision of flexible and affordable housing options. However, homeownership is the better long-term strategy because it is a principal mechanism for asset accumulation for the middle-class and a key element of the American Dream (Pfeiffer et al., 2014). In contrast to the Kerner Commission, The McCone Commission included recommendations to make home loans more accessible, thus promoting greater community ownership of this key asset.

The issues highlighted by the commissions were the product of a long history of housing discrimination by individuals and institutions. The California Real Estate Association, established in the early 1900s, monitored real estate agents to ensure that they “should never be instrumental in introducing into a neighborhood a character of property or occupancy, members of any race or nationality, or any individual whose presence will clearly be detrimental to property values in the neighborhood” (HoSang, 2010, 40). Such exclusionary housing market practices confined minorities to neighborhoods such as Watts.

The resulting residential segregation enabled the government to practice another form of institutionalized racism, the redlining of home mortgages insurance. The Home Owners Loan Corporation designated minority neighborhoods (those shaded in black and gray in the map in this section) as being unfit for home financing, which, with racially restrictive covenants, excluded people of color from the housing boom that afforded many White households their first house (Katznelson, 2005; Rothstein, 2017). This place-based discrimination created major barriers for people of color to build home equity even within racially isolated neighborhoods, and was a contributor to the racial wealth gap (Oliver and Shapiro, 2006).

The post-World War II era saw a chipping away at residential segregation. In 1948, the U.S. Supreme Court ruling on *Shelley v. Kraemer* rendered racially restrictive covenants illegal thus removing the most pervasive legal tool of segregation. That ruling, however, did not prevent Whites from utilizing informal methods of exclusion, such as terrorizing neighbors of color, and the private enforcement of discriminatory rules (Robinson, 2010; Rothstein, 2017).

California's first major attempt to promote fair housing was the Rumford Act of 1963, which sought to prevent discrimination in both housing financing and the rental market. The act narrowly passed the legislature only to be nullified the following year by Proposition 13, an initiative passed by nearly two-thirds of the voters. In the subsequent years, both the California Supreme Court and the U.S. Supreme Court invalidated the proposition. In 1968, the federal government enacted its own fair-housing legislation, and today minorities have the right to file complaints against acts of housing discrimination. It is, however, an empirical question about whether these laws have had a significant impact on ameliorating the housing problems identified in the 1960s.

We examine this question by first assessing home ownership. The available data show homeownership in South LA has lagged behind that for the whole County throughout the half century (see Figure 4). Today, less than one in three residents own their home in South LA. While lower income contributes to the disparity in home ownership, South LA also suffers from a modern version of redlining in the form of predatory subprime lending and resulting high rates of foreclosures. Equally important is the fact that home ownership has become more unattainable for both South Los Angeles and the County, signaling a deeper structural problem of a lack of affordable homes. Home prices have skyrocketed, nearly tripling in South LA and more than tripling in the County since 1960 (Figure 5). This development places financial strain on new buyers and puts ownership further out of reach.

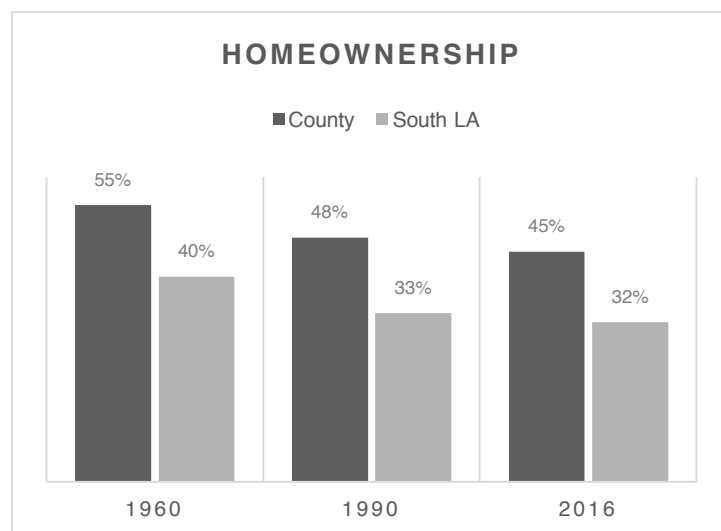


Figure 4: Homeownership

South LA continues to lag behind the County in terms of homeownership. Today, less than a third of South LA residents own a home.

There have been comparable problems in the rental sector. While the McCone Commission and the Kerner Commissions rightfully stressed the need for more subsidized housing, they failed to consider tenant protection rights. Instead, they relied on a housing supply solution, implicitly assuming that government support and market forces would improve quality and keep rents reasonable. This bias has

had dire consequences. The hoped-for supply never fully materialized. The combination of an undersupply of new and affordable rental housing and a growing low-income population has translated into an increasing rental burden.

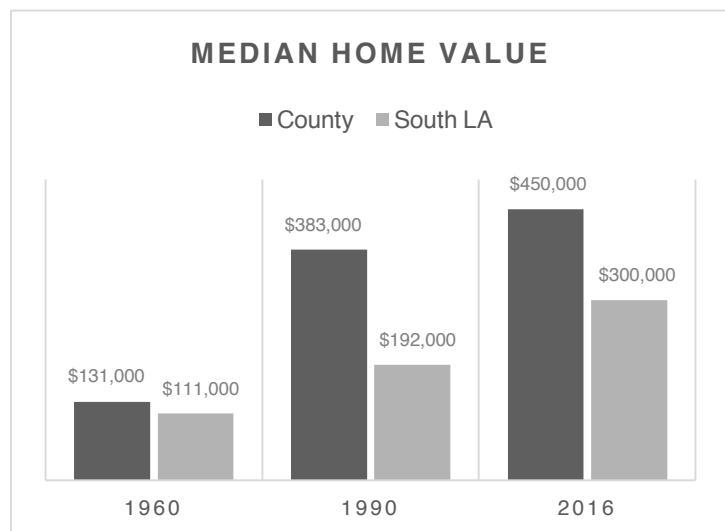


Figure 5: Median Home Value

Home values have been rising in Los Angeles. The disparity in home values between South LA and the County has grown significantly in the last fifty years.

Figure 6 on rental burden shows that high rent burden, as defined by spending more than 30% of income on rent, has become the norm in South LA. Extreme rent burden (50% or more on rent) has increased even faster, more than doubling since 1960. Today two out of five renters in South LA fall into this category. The trend for the County is similar, but the levels remain lower.

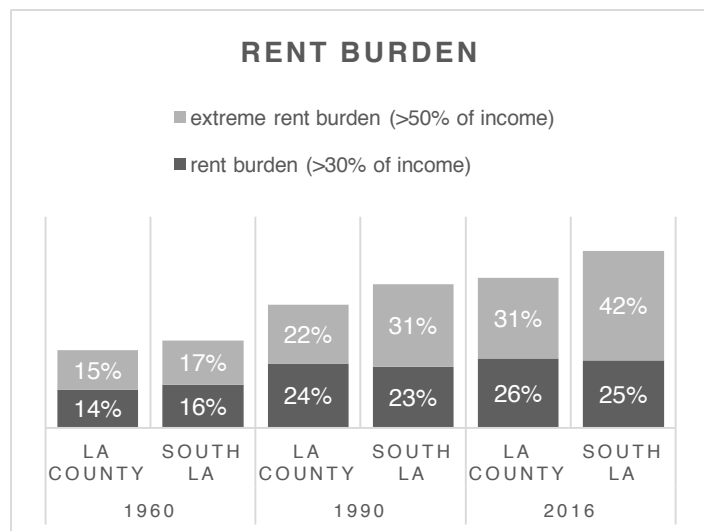
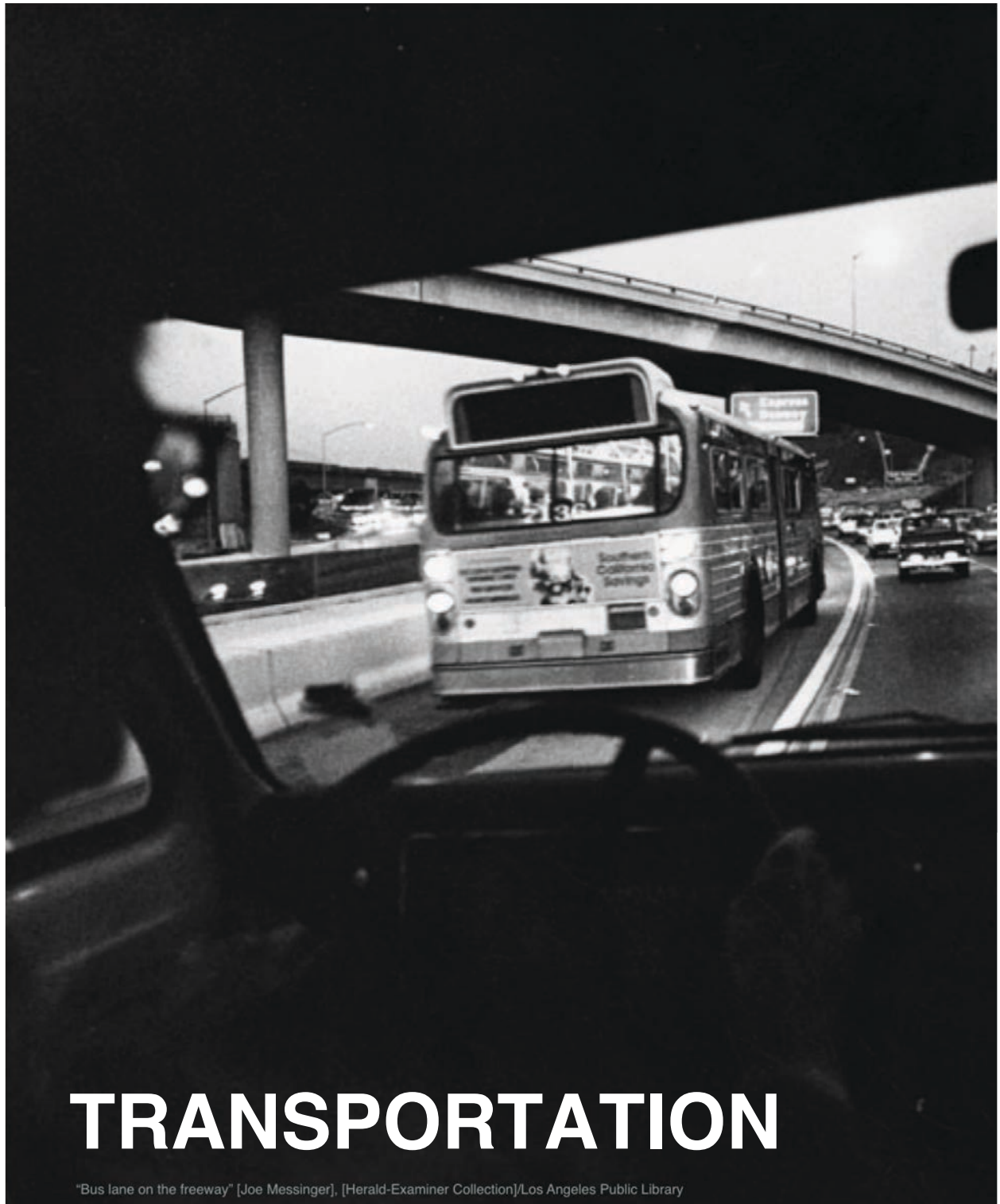


Figure 6: Rent Burden

Most South LA residents are renters. Among renters, an overwhelming majority of South LA residents currently live under rent burden. Over the past fifty years, residents of South LA have been consistently more likely to be under rent burden and extreme rent burden, compared to County residents.

Although we analyze the two housing sectors separately, they are linked. The high financial burden locked many families out of the American dream because they could not save enough to transition to homeownership (Dawkins, 2005). At the same time, many homeowners are in a precarious situation because of high mortgage payments tied to risky loans. In other words, today's housing in South LA remains too similar to the housing crisis identified in the 1960s.



TRANSPORTATION

"Bus lane on the freeway" [Joe Messinger], [Herald-Examiner Collection]/Los Angeles Public Library

Transportation

McCone/Kerner Recommendations

- Consolidate small private transit entities under metropolitan umbrella
- Streamline and increase government funding and subsidies to increase accessibility and ease transfers
- Increase number of locations locally and reach of connections

In their findings, both the Kerner and McCone Commissions recognize the need to increase mobility in order to address unequal access to economic opportunities and resources. Unfortunately, the recommendations of each commission focused primarily on building out and increasing public transit service without considerations for automobile ownership. These recommendations proved to be fundamentally flawed because of LA's auto-centric growth.

Access to private transportation is critical for accessing employment and other opportunities because modern cities are geographically structured around the automobile. The construction of the interstate freeway system enabled the suburbanization of people and jobs, and Los Angeles was at forefront of this transformation. Cars took hold of the city in the early part of the twentieth century, with Los Angeles having the highest number of registered automobiles of all major American cities.

The region constructed America's first freeway, the Arroyo Seco Parkway – now the Pasadena Freeway - connecting Pasadena to downtown LA in 1940. Construction during the 1950s and 1960s produced much of today's road network, which in turn facilitated urban sprawl and the development of multiple job centers. While Los Angeles was in the lead in reconfiguring urban space, the transformation was not unique to this region.

Freeway-driven dispersion also affected other places and had racial consequences. For instance, in Detroit, the suburbanization of jobs increased underemployment among Black workers trapped by housing discrimination in inner-city neighborhoods (Kain, 1968). The problem is not just a growing geographic separation of minorities from economic opportunities. Distances are mediated through access to different types of transportation resources. Spatial barriers are less daunting if an individual can travel by car rather than being confined to public transit (Taylor & Ong, 1995; Ong & Blumenberg, 1998; Raphael, Stoll, Small, & Winston, 2001).

As the prototypical auto-centric metropolis, car ownership is particularly critical in Los Angeles. One of the collateral damage of freeway-centric developments was mass transportation. LA once had an extensive public transit system, but its historical light rail lines closed as the inter-state system expanded (Adler, 1991). These impacts hit South LA hard. In the age of the streetcar (in the first half of the 20th Century), South LA residents could access much of the region through Pacific Electric lines (Avila, 2004). With the dismantling of these lines and the rise of the freeway, South LA not only lost these older transit lines as a resource but also became physically divided by major roadways routed through and around it.

Despite recent investments in public transit, the reality remains that lacking a car can severely limit access to job opportunities, as well as educational and learning opportunities for young children (Ong & Ong, 2017). Having good transportation resources is particularly critical in South Los Angeles since there are very few jobs within the area due to disinvestment and underinvestment (Ong, et al., 2008). Relying

on public transportation to find employment and hold a job can be extremely problematic. Transit simply cannot match the range (and flexibility) of a personal car, even in congested Los Angeles.

This disparity in the usefulness of the two modes of transportation is made evident in Figure 7 (below). The map compares the geographic area that can be reached from a location in South LA on a thirty minute bus or car ride. In the same thirty-minute travel time, the average distance from the center that could be traversed by a car is about five times that of a bus. The resulting total area range in a car is nearly twenty-four times that which could be covered on a bus. Relying solely on transit mean trips can take more time and one's range may be significantly constrained, compared to driving.

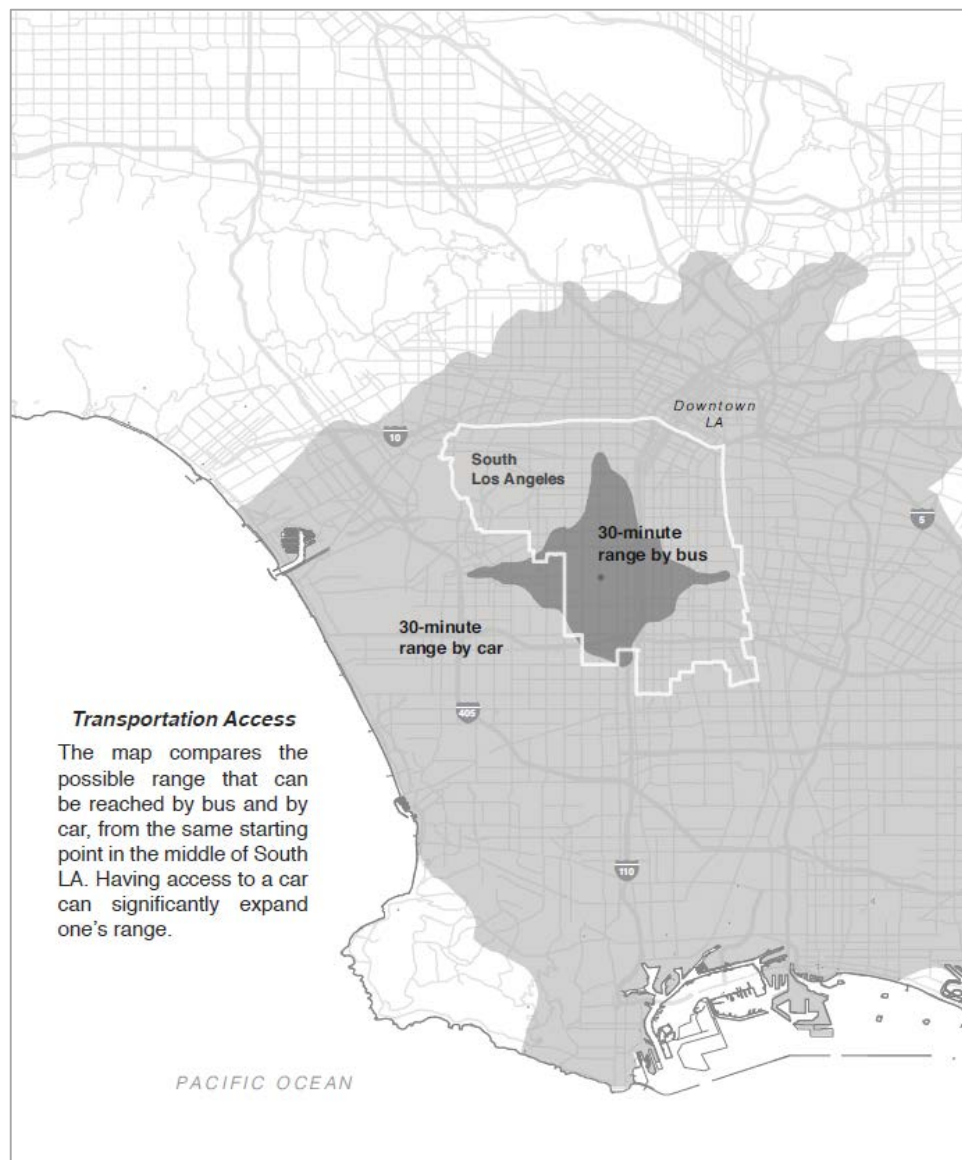


Figure 7: Transportation Access

The data show that in 1960 nearly a quarter of South Los Angeles households did not own a car (Figure 8). Today, the proportion of carless households has decreased. However, one in five families still do not have regular access to a car. This fact makes South Los Angeles residents only half as likely to have

access to a car, compared to others in the region. Although there has been minor improvement over time, the gap in ownership rates between South LA and LA County has persisted. Examining the number of vehicles per person in South Los Angeles, compared to LA County, reveals a similar story. There has been a growth in vehicles per person over the years; however, since 1990, South Los Angeles has had one less car for every five people, compared to the County. Racial discrimination has also played a significant role in these trends.

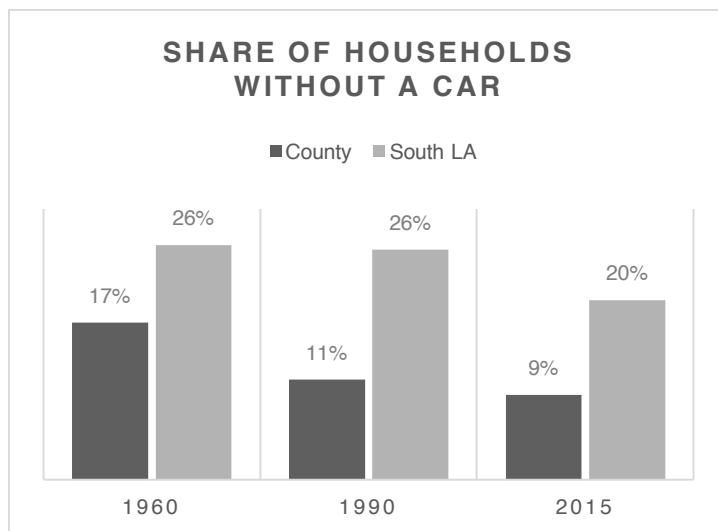
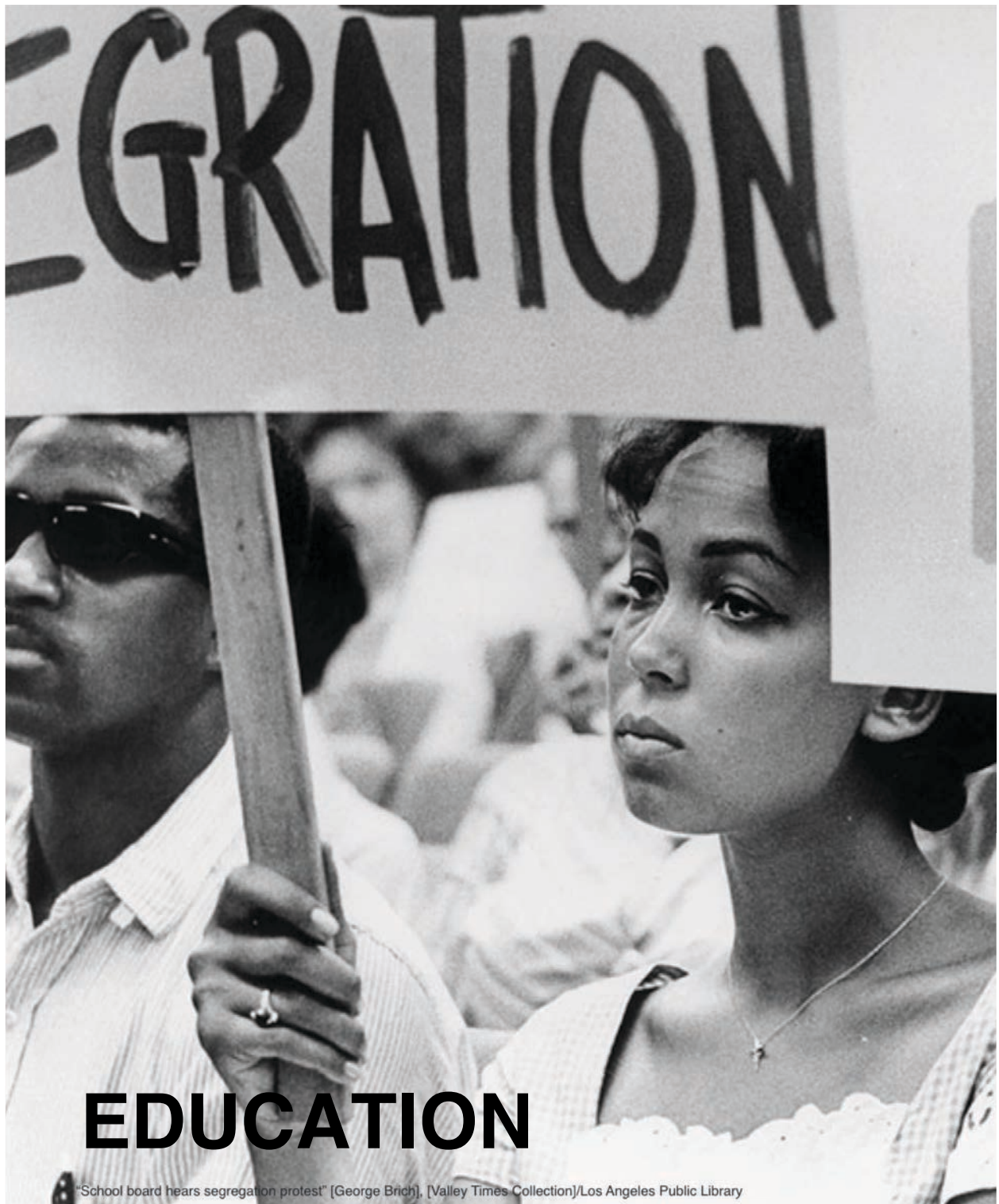


Figure 8: Carless Households

In 1960, one in four South LA households did not own a car. Today this number has fallen to one in five. However, the gap in the availability of a private automobile between South LA and LA County persists, making South LA households nearly twice as likely to be carless.

Insurance redlining and segregation practices push up the cost of buying and owning a car in Los Angeles. The lower rates of car ownership in poor and minority neighborhoods are driven by lower incomes, higher costs of financing a vehicle (Cohen, 2003; Charles, Hurst, & Stephens, 2008), and higher insurance premiums for comparable coverage (Ong & Stoll, 2006). These factors increase the costs of purchasing and maintaining a car, creating financial barriers to ownership. The problem is further compounded by disproportionate policing in minority communities (Grogger & Ridgeway, 2006), which has resulted in unfairly high rates of traffic ticketing, fines, and suspensions of drivers licenses.

As a consequence of the disparity in car ownership, a disproportionate number of South Los Angeles workers rely heavily on public transit; they are nearly three times as likely to use public transit for their work commute. Having a car can significantly improve labor-market outcomes, and conversely, not having an automobile limits an individual's ability to search for a job, worsens the odds of successfully finding a job, obtaining higher earnings, and limits access to other opportunities. In South LA, the gap in transportation resources translates into decreased ability to reliably access these. Worse yet, that gap has persisted over the last fifty years.



EDUCATION

"School board hears segregation protest" [George Brich], [Valley Times Collection]/Los Angeles Public Library

Education

McCone/Kerner Recommendations

- Emphasis on early education
- Reduce class size and expand services to students with special needs
- Financial incentives for desegregating programs (e.g. busing, expanding attendance areas) and greater support for training teachers to work in disadvantaged areas

Public education is critical to prepare children to be successful and productive adults. Unfortunately, not all are afforded a quality education. The Kerner Commission noted that "... for many minorities and particularly for children of the racial ghetto, the schools have failed to provide the education experience which could help overcome the effects of discrimination and deprivation" (U.S. National Advisory Commission on Civil Disorders, 1968, 424-25). The McCone Commission recognized the potentially powerful role of public education to disrupt intergenerational racial inequality, labeling it as "the greatest promise for breaking the cycle of failure which is at the core of the problems of the disadvantaged areas" (Governor's Commission on the Los Angeles Riots, 1965, 49). The findings in this section sadly show that public schools have continued to be "separate and unequal." South Los Angeles remains trapped at the bottom end in terms of school performance.

An educational deficit was a root cause of the riots and both commissions acknowledged the central role of school segregation in creating that deficit but took different positions to addressing it. In spite of the battle for integration ramping up in Los Angeles, the McCone Commission did not recommend school integration. In contrast, the Kerner Commission advocated for more school desegregation, but recommended a more pragmatic approach. These recommendations included improvements to infrastructure, the teaching profession, curriculum, and financing. The commissions went beyond K-12 education by recommending the establishment of pre-school programs.

The legal struggle by people of color for educational equality pre-dates the 1960s, with limited success. For example, the California's Supreme Court in *Tape v. Hurley* (1885) allowed the San Francisco School District to create a segregated school for Chinese students. In *Gong Lum v. Rice* (1927), the U.S. Supreme Court refused to outlaw racially motivated exclusion in public schools. But minorities fared better after World War II.

The California case *Mendez v. Westminster* (1947) set an important precedent when the U.S. Ninth Circuit Court of Appeals ruled that assigning the Hispanics to inferior schools violated the Equal Protection Clause of the Fourteenth Amendment. Seven years later, in *Brown v. Board of Education* (1954), the U.S. Supreme Court finally struck down school segregation, ruling that "Separate educational facilities are inherently unequal." Implementation of the ruling, however, proved to be uneven and incomplete.

Efforts to end segregated schools received a push after *Green v. County School Board of New Kent County* in 1968 (Reardon & Owens, 2014). The case mandated that simply stopping segregationist practices was insufficient and that school districts should be proactive in integrating. However, the rulings on *Brown* and *Green* were predicated on arguments against blatant racism in Jim-Crow states. This left states outside the South in a legal gray zone because public school exclusion was frequently framed in less overt racist forms.

Resistance to school integration was evident in Los Angeles, where the School Board refused the use of busing. *Crawford v. Los Angeles Board of Education*, a case that played out the 1960s and 1970s, captures the degree of opposition that dominated the region at the time. Even establishing the level of school segregation was difficult because school districts were not legally obligated to collect enrollment data by race. Yet, the isolation of minority students in communities such as Watts was unmistakably visible to even the casual observer and readily acknowledged by the McCone Commission.

More fundamental was the question of what strategy should be implemented. The debate quickly shifted to integration through busing once data showed that segregation was widespread. In a protracted struggle, anti-integration activists and politicians launched a final assault on integration in 1979 with Proposition 1. The proposed amendment to the state's constitution would prevent integration through forced busing. In 1982, the California Supreme Court and US Supreme Court upheld the amendment, thus severely limiting the tools available to end segregation.

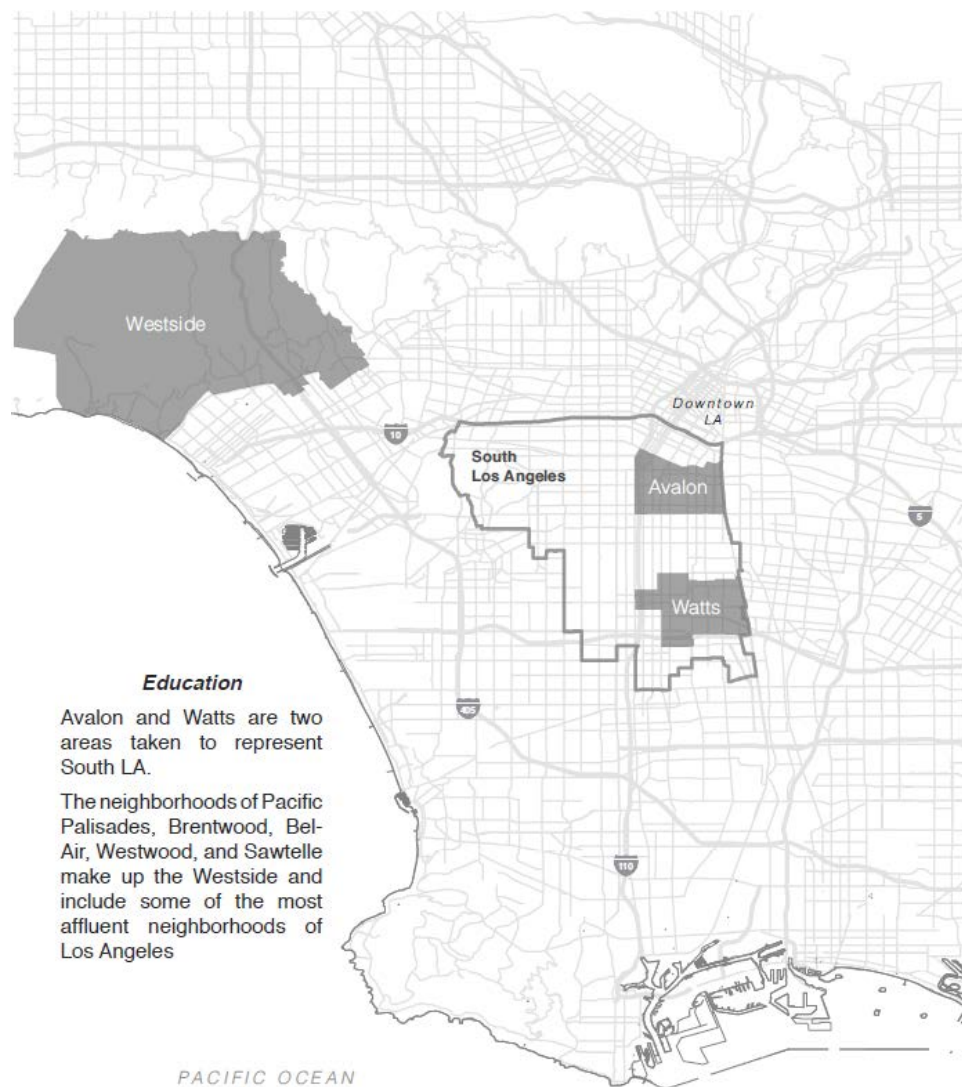


Figure 9: McCone Commission Education Areas

By the 1990s, the inability to implement *Brown v. Board of Education* became evident in a resurgence of school segregation. School attendance is tightly tied to racialized residential patterns, particularly for students in the lower grade levels (Ong & Rickles, 2004). In South LA, which was evenly divided between White and Black residents in 1960, the rapid demographic shift to predominantly Black in 1990, and majority Latino by 2016 created challenges for schools that have become among the most segregated in the nation. (Orfield et al., 2016). The schools in the three neighborhoods highlighted in Figure 9 are indicative of the failure to integrate. The McCone Commission selected these areas to illustrate educational disparities between those in the affluent and predominantly White Westside and those in South LA.

Not only are schools “separate,” they are also “unequal.” In 1960, Westside schools were ranked amongst the top performing schools, while those in South LA were ranked in the bottom (see this chapter’s technical notes for details). Over the next half century, little has changed. The achievement gap remains as wide as ever (see Figure 10). One contributing factor to the inequality is a difference in participation in pre-school programs, which the Kerner and McCone Commissions argued was critical important to preparing children before kindergarten, to ensure that all start on equal footing.

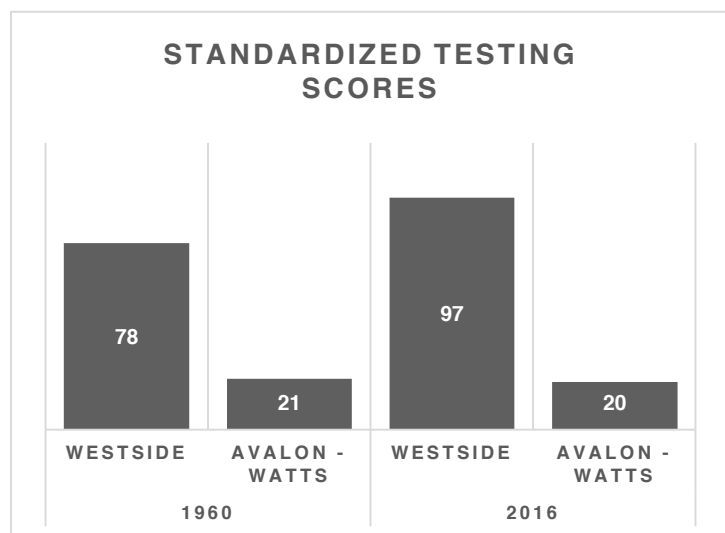


Figure 10: Standardized Testing Scores

The gap in school performance between South LA and the most affluent neighborhoods of Los Angeles was evident in 1960. The same degree of disparity exists today.

The pre-school recommendation has only been partially implemented. While there is no information for 1960, pre-school enrollment was relatively rare in most communities. For example, Head Start, a program for poor pre-school children, did not start until 1965. Since 1990, South LA has generally followed the trend in increasing enrollment and, today, two out five children between three and four years old is enrolled in pre-school. However, the quality of pre-schools differs depending on providers. Children in the County are four times as likely to be in private school as they are in South LA. This gap is even greater between South and West LA where nine in ten children are enrolled, nearly all of them in private school.

Conclusions

In the 1960s, significant civil unrest was unfolding throughout the U.S. and notably in the Watts area of Los Angeles. Two commissions were established to look into the causes and into policies that might improve conditions and prevent future demonstrations. Just over two decades later, the much-televised LA Riots took place, also in the South LA area. And even after the latter event, there remain many unmet social and economic needs. In addition, the Black-White framework in which the commissions of the 1960s functioned has changed by subsequent demographic shifts. Labor markets have also shifted, especially in regard to the decline of relatively well-paid manufacturing jobs.

This chapter examined the trends that occurred since the 1960s in South LA in four areas: employment and earnings, housing, transportation, and education. Although by some measures, there has been some positive movement, the adverse trends in employment opportunities and housing costs stand out as aggravating issues.

We look at the sum of the analyses with ambivalence. While the data paint a bleak picture, there are other areas that we do not cover which offer brighter prospects. In the aftermath of the 1992 Civil Unrest, community members were mobilized and many community organizations were born. The ability to shape a South LA that works for its residents lies in the dedication of the community and organizations on the ground. But, they, alone, cannot alter the trajectory of the area. As the Kerner Commission emphatically stated in its report, an alternative path “will require a commitment to national action—compassionate, massive, and sustained, backed by the resources of the most powerful and the richest nation on this earth.” It is time to renew that commitment.

Technical Notes

There are no definitive boundaries for South Los Angeles. Over time, the boundaries have shifted as the neighborhood has changed. The analyses are based on Public Use Microdata Areas (PUMA) as units of aggregation for the data. The units have changed over time, but not so much that their coverage of the South LA area, as we define it, remains comprehensive and consistent. We chose to use the South LA boundaries, defined by the LA Times Neighborhood mapping Project, because they are a reasonable approximation of the Curfew Area for the 1965 Watts Riot and the post-1992 Civil Unrest Rebuild LA zone. The reporting of PUMS at the level of PUMAs begun in 1990. However, IPUMS have added the PUMA designation to the 1960 data by matching the data disaggregated to the census tract level to the 2000 PUMA boundaries (Ruggles et al, 2007).

The PUMA enables us to match Public Use Microdata Sample (PUMS) data to the South Los Angeles area. Most of our figures rely on PUMS data to define the variables and compute the summary measures. PUMA data includes the full range of variables available in the Census long-form surveys before 2006, and the American Community Survey, at the individual and household level records. This allows us to code the data to match the most relevant definition. In most cases, we chose variables that allowed for consistent definitions over time. The only variable that did not exist in 1960 was pre-school enrollment, as the census did not count enrollment for children under five years old.

Data for 2016 come from the American Community Survey 5-Year Estimates.

All Dollar figures are adjusted for inflation to 2016 values using the Bureau of Labor Statistics Consumer Price Index Research Series Using Current Methods for 1990 and the Consumer Price Index Inflation Calculator for 1960.

“Adults” refers to individuals between the ages of 24 and 65.

The only additional data source was used to report on elementary school performance. We took advantage of the data that the McCone Report included in the report on reading comprehension and vocabulary to match the Standardized Testing and Reporting data available today. The McCone report did extensive research on school performance, but only reported the data for three sets of neighborhoods: West, South, and East LA.

To be consistent, we used their definition of West and South LA to take the average STAR scores for schools within their boundaries. The McCone report ranks neighborhoods on a national scale. In contrast, the STAR scores are California-specific and we rank the neighborhoods within Los Angeles.

The results concerning the relative influence of skills, experience and knowledge, and race on earning in the employment section relies on an ordinary least square analysis. We regressed a set of variables conventionally associated with earnings (e.g. educational attainment, gender, nativity) on the log of earnings for adults working full-time full-year. We then group variables into categories corresponding to human capital, race and ethnicity, and place. This enables us to decompose the contribution of each set of variables and get an estimate of their relative influence in explaining gaps in earnings.

Maps

Housing map is created using shapefiles from the Testbed for the Redlining Archives of California's Exclusionary Spaces.

Transportation Access map was created by generating a contour analysis from travel distances generated by inputting destinations into GoogleMaps routing tool.

Education maps are based on the Los Angeles Region Welfare Planning Council's profile areas, which are based on aggregated 1960 census tracts.

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Chapter 7

Mixed Evidence of Local Neighborhood Stabilization: Lessons from the East Bay and South Los Angeles

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In response to a national economic crisis, the Neighborhood Stabilization Program (NSP) was established by the Department of Housing and Urban Development (HUD) to aid communities that suffered disproportionately with abandonment and risk of mortgage default during the 2008 financial collapse (Immergluck 2009). After full implementation of the program, marking over a ten-year follow-up period from the first round, there are many important community development lessons to learn from these efforts. What is the degree of association between current key community characteristics and community redevelopment activities exercised by public/private partnerships under NSP? Is there evidence that particular NSP activities were more strongly associated with the stabilization of communities? Understanding the strengths and weaknesses of a large federal community redevelopment program intended to alleviate one of the largest economic crises of the century is paramount to crafting effective policies in the future.

In its implementation in 2008, NSP primarily sought to aid communities through the purchase and redevelopment of foreclosed and abandoned homes. Over three waves of NSP, HUD allocated \$6.82 billion to 307 NSP grantees in 2008, 56 in 2009 and 270 grantees in 2010 nationwide (HUD 2018a). There are 120 grantees in the State of California; about 50 percent are in the Los Angeles metro area. NSP represented the greatest single effort to directly address communities affected by the 2008 U.S. foreclosure crisis.

NSP is a component of the Community Development Block Grant (CDBG) (HUD 2013a). Community development traditionally covers a wide range of goals and activities, including the facilitation of economic growth, attempts to increase the quality and stock of housing, attempts to sustain or improve commercial functions of the city, improvement of physical aspects of the community such as parks and recreational facilities, beautification, and a variety of service provisions to grow human capital or encourage self-sufficiency within the population (Levy 2013). Previous community development efforts undertaken by the federal government may provide somewhat of a cautionary tale.

For example, urban renewal (1949–1974), a post-World War II community redevelopment federal program was authorized to address the ubiquitous housing supply inadequacies and social distress of urban centers; it targeted blighted communities and set out to systematically remove “slums.”² The program is mainly remembered for displacing thousands of families. While, it is important to respond to extreme market failures such as widespread housing supply inadequacies, the Urban Renewal program reminds us of how harmful insensitively crafted community development policies can be to less powerful members of society. A comprehensive understanding of the development impacts of NSP are critical to crafting future policy tools capable of equitably addressing the needs of communities.

²Urban renewal positioned local governments to take private property for a public good, a process referred to as “eminent domain,” and to sell parcels to private developers for a fraction of their cost. (Refer to Anderson, M., 1964.) These practices led to the displacement of thousands of families without other adequate housing options; a disproportionate share was people of color. Moreover, practices broke up tightly knit neighborhoods and social networks, changing the development patterns of U.S. cities in important ways. (See Levy 2013, p. 213 and refer to displacement statistics reported by Digital Scholarship Lab, “Renewing Inequality,” American Panorama, ed. Robert K. Nelson and Edward L. Ayers, accessed November 13, 2018, <https://dsl.richmond.edu/panorama/renewal/#view=0/0/1&viz=cartogram&text=defining>.)

Generally, early reports suggest that NSP was too slow and too small a program to have any significant impact on stabilizing neighborhoods after the onset of the economic crisis (Immergluck 2013). Focusing on South Los Angeles and the East Bay areas, this chapter describes local NSP program activities and provides an analysis of related changes in local economic dynamics from 2009 to 2014. Results indicate that there are important differences between South Los Angeles and the East Bay NSP program activity and related changes in economic conditions. While there is evidence of expected associated changes in local economic dynamics, there are also seemingly unexpected associations that require a more nuanced examination of NSP activity on local communities.

Background on the Neighborhood Stabilization Program

The financial collapse of 2008, triggered by intensifying foreclosure risk and sharp economic downturn from December 2007 to June 2009, officially plunged the country into a national crisis. During its height, an estimated four million households were foreclosed on annually (Institute for Policy Research 2014). According to assessor data, the State of California had the highest number of foreclosures of any state totaling 1.2 million from 2007-2016 (CoreLogic 2016). Regions of Southern California were among the worst hit. Los Angeles and its Inland Empire suburbs, followed by the cities of Sacramento, San Diego, and San Francisco, reported the highest number of foreclosures. At the neighborhood level, the intense economic distress brought about heightened foreclosure risk, ushered in a concentration of foreclosures, property value loss, maintenance neglect, vacancy and abandonment of homes, tax base erosion, growing incidence of vandalism, and other property crimes (Spader 2015).

Large household equity losses and unprecedented unemployment continued to characterize this period. More than a \$7 trillion precipitous downturn in household equity simultaneously occurred with great job loss (Gould Ellen and Dastrup 2012). An alarming 11 percent job loss coupled with persistent unemployment spells at a seasonally adjusted average 35-week span placed households and communities at extreme economic risk (Farber 2011; Gould Ellen and Dastrup 2012). With housing foreclosures and joblessness escalating, communities became concerned about the deleterious effects of concentrated foreclosures, the unprecedented loss of property and household wealth (Immergluck 2009).

No economic downturn since the Great Depression of the 1930s had as steep and as long-lasting impact on city revenues and expenditures (Chernick, Reschovsky and Newman 2017). As was the case for cities throughout the nation, the negative spillover effects of foreclosure on cities in California were stifling. During this period, state aid fell by about 11.5 percent and property taxes fell by 8.5 percent (Chernick, Reschovsky and Newman 2017). In turn, many local municipalities were unable to finance usual public services fully including education, capital outlays, natural resources, parks and recreation, sewage, solid waste collection, and safety services. Linked to the unprecedented rate of foreclosure, municipalities were at risk, unable to raise adequate tax revenues leading communities such as Stockton and Modesto in California to wrestle with bankruptcy.

After the financial collapse, Congress authorized three rounds of funding to be funneled to local governments to encourage community redevelopment by acquiring foreclosed, abandoned properties, and rehabilitation of those properties. The program also encouraged the securitization of down payment assistance and affordable loans for low and moderate-income households. The first round of funding for the Neighborhood Stabilization Program (NSP1) was legislated by passage of the Housing and Economic Recovery Act, 2008 (HERA 2008). Funding was disseminated based on a formula to various cities. As the first round of NSP, \$3.92 billion was awarded to roughly 307 state and local governments based on a foreclosure risk score for census tracts.

NSP 2 was implemented under the American Recovery and Reinvestment Act of 2009 and made available \$1.93 billion through a competitive basis to a total of 56 states, local governments, and a consortium of nonprofits (ARRA 2009). In 2010, NSP 3, the final year of funding was based on a formula to entitlement cities, \$1 billion additional dollars was authorized by the Dodd-Frank Act. NSP 3 was awarded to roughly 270 state and local governments (Dodd-Frank 2010; HUD 2013a).

Local NSP Activity: Los Angeles

There were 120 grantees in the State of California, about 50 percent are in the Los Angeles metro area (HUD 2013b, 2013c). HUD awarded five grants to the immediate Los Angeles area. Los Angeles (city) received approximately 142 million in NSP funds. The NSP funds aided local government agencies in the acquisition of over 500 single family and multi-family units. Los Angeles NSP grantees acquired foreclosed and abandoned buildings in neighborhoods with the highest indices of foreclosures (RAND 2012). These grantees aimed to reduce vacant properties, stabilize home values, add green technologies to housing construction, and improve the housing stock in those neighborhoods most affected by foreclosures. The Los Angeles Housing Department under NSP 2 grant sought to add pocket parks where access to open space was woefully inadequate. Vacant housing in disrepair was purchased and converted to open space.

Returning to service foreclosed and abandoned property in low income areas hard hit by foreclosure was important to the future viability of local neighborhoods. It was critical that municipalities protected neighborhoods from squatters and other individuals targeting the abandoned property for unscrupulous activity that potentially could bring crime or other nuisances to the neighborhood. More importantly the rehabilitation and resale or rent of the property ensured that municipalities collected essential tax revenue critical for maintaining quality community



City of Los Angeles, 113th Ave, 90059 – Before Construction. Courtesy of the Los Angeles Housing & Community Investment Department (HCIDLA).

services. As such, NSP required that grantees use their funds quickly in an effort to restore neighborhood stability. Most municipalities looked to develop collaborations that could expedite the process of acquisition, rehabilitation, and resale of foreclosed parcels.

Restore Neighborhoods Los Angeles (RNLA) was an important player to the execution of NSP in Los Angeles. As did many other grantees around the U.S., Los Angeles created an independent nonprofit, 501[c]3 organization to be a subrecipient of NSP funds and to implement the NSP program as described in the City's proposal. Generally, municipalities are not equipped to purchase properties or to execute directly the reconstruction of multiple units in an accelerated manner. The work under NSP grants was expected to be executed in a year and thus RNLA had more freedom to meet tighter timelines. RNLA managed approximately \$140 million of NSP funding. Focusing on local neighborhood stabilization activities in South Los Angeles and the East Bay the primary research question is how was NSP activities related to changes in local economic dynamics from 2009 to 2014.

Data and Methodology

To identify NSP activity related to neighborhood change, we looked to link HUD NSP administrative data (HUD 2018b) and U.S. Census economic and population data by tract. After the full implementation of NSP, HUD administrative records of the NSP program were published for 2008, 2009 and 2010. These records are the only comprehensive data source of NSP activity by state and tract. Actual counts of the type of NSP program activity are reported including total NSP program counts, NSP construction, buyers' assistance, demolition, land banking, acquisition or other NSP activities. These activities are reported for the entire nation with the ability to access data for tracts to observe NSP activities within local communities. Additionally, 2008 NSP administrative data used to identify eligible tracts and aid applicants in designing their local programs were used. The neighborhood-level foreclosure data from HUD during the NSP 1 program are useful for gauging how economically depressed local neighborhoods were before the NSP program implementation. These data are available for states by tract (HUD 2010).

U.S. Census data provided important economic and population statistics for the analysis. The American Community Survey 2009 and 2014 5-year estimates were the best data source for local economic and population characteristics. These data were available at the tract level. For this chapter, we looked to examine empirically the correlation of NSP activity on local economic conditions such as changes in poverty, home ownership, median housing value at the tract level.

We used a quasi-experimental design to observe differences in the mediating relationship of NSP on differences in key economic and population characteristics of local neighborhoods in the East Bay and South Los Angeles. Both contiguous tracts and a comparison group of tracts are included in the analysis as a counterfactual. There is an unknown set of activities that communities could have employed to address economic and social problems related to the Great Recession. It is difficult to account for everything that communities and households used systematically. Therefore, it was critical to identify comparison tracts which were like NSP tracts, but which that did not receive the NSP treatment. A contiguous and comparison group of tracts serve as a counterfactual to NSP.

To identify comparison tracts, means and medians were calculated for NSP tract group by study area using the baseline year (2009 ACS 5-year estimates) (see Table 1). Attempts were made to select reliable comparison tracts by study area. Comparison tracts were selected if they were among the most similarly situated tracts to NSP tracts within the immediate geographic area. However, there were several limitations:

- Due to census tract changes between 2000 and 2010, census tracts with changes during this time-period were omitted from the analysis, overall decreasing the number of tracts that may have made it into the comparison pool.
- NSP tracts are the most economically depressed and thus comparison tracts are generally a little better off than NSP tracts. Tracts eligible for NSP had the greatest percentage of foreclosures, the highest percentage of subprime mortgages, and were likely to face a significant rise in foreclosures. As a result, means and medians of comparison tracts for South LA and East Bay are slightly better than NSP group means and medians.

Table 1: Comparison of NSP Tracts and Non-NSP Tracts

Variable (2009 ACS)	NSP South LA	Non-NSP South LA	NSP East Bay	Non-NSP East Bay
Mean % Black	36%	10%	13%	7%
Mean % White	25%	56%	48%	63%
Mean % Vacancy	40%	35%	30%	33%
Median Home Value	\$388,234	\$419,000	\$339,500	\$419,000
Mean % Renter	64%	53%	46%	50%
Mean % Own	36%	47%	54%	50%
Mean % Poverty	30%	15%	12%	14%
Total Tracts	63	67	103	31

Rather than focusing primarily on the foreclosure mediating effects of NSP as other studies have done (Immergluck 2009, 2012), this chapter focuses on a wider set of NSP stabilization goals for economically distressed neighborhoods. The data analysis seeks to reveal whether NSP is related to intended goals of stabilizing neighborhoods overall by decreasing poverty, stabilizing homeownership and housing value in some of the most economically distressed neighborhoods. In our estimation, given the overall community development goals of NSP, the effectiveness of NSP depends on how strongly correlated NSP is to these neighborhood characteristics.

Results

The primary dependent variables of concern are percentage point differences in poverty, homeownership, and median housing value from 2009 to 2014. Means test of average differences between NSP and Non-NSP comparison groups in Table 2 reveal important NSP/Non-NSP difference in homeownership in South LA, and difference in poverty rate and home value in the East Bay over the 2009 to 2014 period. For South Los Angeles, a 1.4 percentage point average homeownership decrease compared to a 4.7 percentage point homeownership decrease over the period represents a meaningful difference in homeownership between NSP and Non-NSP comparison. Likewise, in the East Bay, there is a 2.4 percentage point increase in the poverty rate in NSP tracts versus a 5.9 percentage point increase in Non-NSP tracts; there are significant between group differences. Differences in median home value in NSP and Non-NSP tracts in the East Bay reveal important between group differences as well. Multivariate analysis that controls for other dynamics is necessary to evaluate the extent of the relations more rigorously.

Table 2: Average Differences in Tract Characteristics, 2009 to 2014

	NSP	Comparison	Contiguous
South Los Angeles			
Poverty rate	3.4	4.7	4.8
Ownership rate**	-1.4	-4.7	-3.4
Home value (\$)	-112,515	-109,718	-111,600
East Bay Area			
Poverty rate*	2.4	5.9	2.2
Ownership rate	-6.1	-5.5	-5.4
Home value (\$)**	-154,965	-110,712	-128,998
Computed by the authors using ACS 2009 and 2014 5-year estimate data.			
Means test of average differences between comparison groups for each area were conducted. The difference is a basic average percentage point difference in poverty rate, homeownership rate, and actual dollar difference in median home value.			
*Statistically significant at 10% level; **at 5% level; *** at 1% level.			

Dependent Variables

The dependent variables are 2009-2014 change in poverty, homeownership and median housing value. The change is a basic average percentage point difference in poverty rate, homeownership rate, and actual dollar difference in median home value. These variables were selected as economic characteristics that likely could be related to community development activities. The NSP dichotomous variable with a 1 or 0 value is the coefficient of interest. This coefficient indicates the direction and magnitude of the NSP activity on the selected outcomes of interest. The asterisks indicate how confident one could be that the null hypothesis establishing no relationship can be rejected.

Independent Variables

The independent variables in the analysis capture NSP activity. We measure NSP activity in a few ways. First, we look to understand whether having NSP in a tract is related to any difference in the dependent variables. NSP is a dichotomous variable with a value of 1 or 0 for Non-NSP tracts. Second, we look to understand how the size of the NSP activity over the three-year period may be related to outcomes. Here three dichotomous variables are generated that identify tracts with 1-2 NSP programs, 3-4 programs or 5 and greater over the three years. Each NSP size variable is assigned a 1 or 0 value. Therefore, the interpretation of the effect is NSP of a particular size as compared to no NSP activity of any size. Lastly, construction, buyers' assistance, demolition, acquisition or land banking types of NSP activity are taken into consideration. Within NSP administrative data, the primary type of activity undertaken by each grantee of a NSP program is reported. Counts of specific NSP activity are reported. Continuous count variables for each activity are included in OLS regression models.

Covariates

Important controls are included in the analysis to account for important differences within and between tracts. Population characteristics, Black population percent difference, White population percent difference, housing unit vacancy difference, 2008 estimated foreclosure rate, and 2008 unemployment rate characteristics are included in the models used for our analysis.

Multivariate Analysis

We used Ordinary Least Square (OLS) linear regressions for the multivariate analysis to examine the extent of the relationship between NSP activity and change in poverty, homeownership and median housing value. In Table 3 we present base models of NSP activity and change in key neighborhood characteristics. Bivariate models are presented in Panel A and multivariate models in Panel B controlling for all covariates and Los Angeles or East Bay area fixed effects. Panel A shows that on average, in tracts that received NSP activity there was a related 2.36 decrease in poverty and a \$28,896 decrease in median housing value as compared to Non-NSP tracts.

Generally, the significant bivariate results on poverty and median housing value hold in the multivariate results after controlling for local area fixed effects and covariates. On average, Panel B results show that generally NSP activity is associated with a 3.22 expected decrease in poverty over the 2009 to 2014 period. These results generally convey that overall communities with NSP activity compared to those without Non-NSP activity is associated with poverty decreases, perhaps signaling more economic gain and self-sufficiency by local residents. On the other hand, NSP is associated with a \$22,212 *decrease* in housing value compared to similarly placed areas without the NSP treatment. A priori, we expected that NSP activities would have a *positive* economic impact on communities targeted; after all, the intent of NSP was to address the economic distress of hard-hit communities. While the (good) decrease in poverty may have been expected, the (bad) average decreases in home value were not expected. Further explorations of these relationships will be necessary to explain observed difference.

Table 3. NSP Activity and Change in Neighborhood Characteristics, 2009-2014

	Poverty	Median Housing Value	Home Ownership
Panel A: NSP =1 Bivariate Relationship			
NSP	-2.358** (1.066)	-28896.341*** (7698.658)	.613 (1.021)
Panel B: NSP =1			
NSP	-3.222** (1.248)	-22212.377** (8747.981)	1.484 (1.166)
Observations	239	239	239
Adjusted R²	.094	.169	.125
Local Area FEs	Yes	Yes	Yes
Covariates	Yes	Yes	Yes

*Statistically significant at 10% level; **at 5% level; *** at 1% level.

Notes: Each cell represents a separate OLS estimate base on the data from HUD, NSP Program and ACS 2009 and 2014 5-year estimates. FEs = Fixed Effects

An additional key question that we explored in our analysis is how the size of the NSP activity relate to neighborhood characteristics that may indicate a stabilizing trend. Not presented in table format, preliminary OLS regression results used to examine change in neighborhood characteristics by size of the NSP treatment indicate that the size of the treatment may be important to neighborhood stabilization. The analysis reveals that neighborhoods with 1-2 NSP activities compared to non-NSP neighborhoods were associated with significant decreases in poverty and significant decreases in average housing value. Surprisingly, average housing value declines remained and appear to grow in magnitude with the size of the NSP treatment, 3 to 4 and 5 and more NSP activities respectively. Reasons why this relationship might exist are explored in the Policy Implications section of the chapter. Some positive change in the rate of homeownership seem to be related to the size of the NSP activity, particularly, when the treatment is larger than a few programs, 3 to 4 programs.

Various types of NSP activity occurred and this was by and large specific to the type of properties that were acquired by NSP grantees at the local level. There was a set of activities rendered to prepare the properties for use. NSP properties within tracts likely involved more than one NSP activity. Nevertheless, these tracts are characterized by the dominant type of NSP activity conducted for each program. NSP activities included acquisition (all properties had to be acquired), construction, buyer's assistance, demolition and land banking. Preliminary results indicate that NSP projects involving a substantial amount of demolition are significantly associated with a decrease in poverty while acquisition focused activity is related to declines in property value.

Policy Implications

In this chapter we observed changes in important economic factors from 2009 and 2014 related to NSP activity in two California local communities. The period of focus represents a 10-year follow-up to the first-year of NSP implementation, characterized earlier as a community development crisis intervention. As noted, the NSP program targeted communities with the greatest foreclosure-related economic distress. Largely, we sought to understand how recent local economic conditions were related to local NSP activities undertaken in California.

Analysis of this sort is salient for several reasons. First, it illuminates the role of federal spending and community reinvestment as a place-based response to widespread economic distress as opposed to a people-based response to individual hardship during this period. Second, at a time when numerous evaluations of NSP report none to very little stabilizing effect of NSP after observing the NSP foreclosure effect, these results encourage nuanced focused analysis that may uncover where and how the program worked well or had unintended results. Finally, the analysis reminds us that public investment in distressed neighborhoods may ultimately stimulate neighborhood change in ways that make it difficult for poorer residents to remain, potentially causing inequality.

Indeed, there is mixed evidence of neighborhood stabilization in local NSP communities. As a place-based community development program, the strongest evidence of stabilization is that NSP activity seems to be associated with decreases in poverty. However, with respect to housing value, there are larger decreases in NSP neighborhoods than in Non-NSP neighborhoods. We expected that NSP activity would be associated with increases to housing value. Why might housing value on average continue to decrease in neighborhoods that received NSP activity compared to Non-NSP neighborhoods? At first glance, one might lament that these results are in alignment with other research (Immergluck 2009, 2013) that suggests there were none to modest stabilization effects of NSP primarily because there was reportedly not a big enough or quick enough response to the magnitude of crisis that the nation was experiencing.

However, there may be logical reasons why median property values decreased in NSP versus Non-NSP neighborhoods that do not alone support the no-stabilization assumption. NSP neighborhoods may be more distressed than other neighborhoods and generally, even with some stabilization, property values as a result may be slower to increase. Given this notion, controls for neighborhood distress were considered. But the negative correlation remained leading us to believe that the negative correlation was not spurious or manufactured. Perhaps the low-income and moderate-income feature of NSP ensured that NSP neighborhoods would remain more affordable than other Non-NSP neighborhoods.³

³Income targets for purchase or rental of a NSP property were not to exceed 50% of area median income. Median income targets were 25 to 50% of median income. At least 25% of each grantee's NSP grant for residential properties was to be used to house individuals or families with incomes at or below 50% of area median income. The principal way grantees were likely to comply was through rental housing. (See HUD NSP administration instructions, HUD. 2008. Neighborhood Stabilization Program Oct. 2008. Office of Community Planning and Development. Washington, DC. Accessed Nov. 14, 2008 at: https://www.hud.gov/sites/documents/DOC_38155.PDF).

This possibility is particularly suggestive since, after the foreclosure crisis, the practice was for investors to move in and widely purchase underpriced “REO” properties. (REO, or real estate owned, is the term for properties under bank ownership after foreclosure.) Investors redeveloped them and sold them for a profit. (Right to the City Alliance 2014)

In some places a corporate infrastructure for buying single family homes is emerging that likely strain housing supply thus causing costs to increase.⁴ To the extent that NSP slowed that process in NSP treated neighborhoods and reserved redeveloped units for low-income and moderate-income homeowners, property values are likely not to grow at the same rate as Non-NSP neighborhoods. Despite these observations, additional analysis is required to understand these trends more deeply.

Public investment can stimulate neighborhoods, but it is important to understand the mechanism through which neighborhoods are stimulated. Systematically, results in this chapter on the relationship between NSP activity and poverty consistently reveal a negative relationship. As we turned to consider the type of NSP activity and its relationship to community outcomes, we observed that generally decreases in poverty were associated with demolition-type NSP activity. The magnitude of the relationship is strong and raises concern about the mechanisms by which poverty is shrinking.

There are several stories that may explain the association. The removal of residential housing stock and rebuilding in some instances is linked to neighborhood change in a few ways. Changes in the housing stock could cause current residents’ incomes to increase pushing them out of poverty, or it could cause new residents to move into the neighborhood who are above the poverty line. There may be a displacement of the poor residents who once inhabited in the community. In the current study we were unable to explore the mechanism directly. It will be important to illuminate this finding further in subsequent research as to ensure that NSP-type programs in the future do not have unintended outcomes such as displacement.

In summary, this chapter examined some evidence of NSP-related stabilization in two California areas. Some results turned out as expected. Other results raised further questions for subsequent research. Collectively, the results presented here suggest that it is necessary to examine potential effects of NSP in a nuanced way, accounting for differences such as the size and type of activities performed.

⁴Growing activity by well-capitalized private equity firms, such as Blackstone, have rapidly developed and institutionalized the single-family rental market. Since 2012, their strategy, initially described as “REO-to-rental” has already undergone a number of innovations such as leveraged purchasing, securitization of rental income streams, and private label-lending. Large firms provide blanket mortgages to small investors. Acquisition of nonperforming loans expands large firms’ presence in the single-family market and builds a pipeline for financial products like rental bonds. (See Right to the City Alliance, 2014, for a full description of the emerging corporate scheme.)

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Chapter 8

The Handover Budget of 2018-19: The Fiscal Legacy of Jerry Brown

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This chapter reflects only information through mid-July 2018. Later developments are not included.

"Gavin Newsom will get stuff done. There is a time for an old guy, and there is time for a young guy."

Governor Jerry Brown¹

"...Jerry considers no one to be his peer."

Willie Brown, former San Francisco mayor and Assembly speaker²

When Jerry Brown steps down as governor in January 2019, he will have been the only governor to have served four terms. The only other governor even to have been elected three times was Earl Warren. And Warren, because of his appointment as Chief Justice of the U.S. Supreme Court in 1953, did not complete his third term.³

Moreover, Jerry Brown is one of the youngest governors and the oldest governors since his first two terms occurred in the 1970s and early 1980s, and his last two terms followed his election in 2010. Before Brown's first term, he was elected as California Secretary of State after serving on the board of the Los Angeles Community College District. Before Brown's third term, he was state Attorney General and mayor of Oakland. So, by his second gubernatorial iteration, he had a unique perspective on both state and local government in California. Moreover, he grew up in the household of his father, former Governor (and Attorney General) Pat Brown. He was steeped in California politics from an early age.

One suspects that, absent term limits, Jerry Brown could have run successfully for a fifth term. Thanks to a voters' initiative in 1990, however, term limits prevented consideration of any such ambitions. After Brown's first iteration, he was succeeded by a Republican, George Deukmejian. But given California's political development since then as a so-called blue state, the likelihood that Brown will be succeeded by the Republican candidate for governor, John Cox, is virtually nil. Thus, as Brown put together the final touches on his 2018-19 budget, he fully expected to be handing over that last budget to Lieutenant Governor Gavin Newsom, the former mayor of San Francisco and the Democrats' candidate for governor in the November 2018 election.

The two men – Newsom and Brown – were not close. Newsom had flip-flopped in his support for a pet project of Jerry Brown, a high-speed rail train that was planned to connect the Bay Area with Southern California. There was never a sign that Governor Brown had consulted with Newsom on the state budget or any other issue. Newsom, in fact, had briefly been a rival candidate for governor in the 2010 election, shifting to running for lieutenant governor when it seemed clear that Brown would be the Democratic nominee. In effect, Newsom had to wait in the wings for eight years – there isn't much else for the lieutenant governor to do except wait – for Brown's second iteration as governor to end.

¹Quoted in Patrick McGreevy, "Gov. Jerry Brown rallies Democrats to elect Gavin Newsom as his successor," *Los Angeles Times*, June 13, 2018. Available at <http://www.latimes.com/politics/essential/la-pol-ca-essential-politics-may-2018-gov-jerry-brown-rallies-democrats-to-1528923917-htmlstory.html>. Note: Dates cited on news references are web dates and not necessarily the date an article appeared in print (in paper format).

²Willie Brown, "Anthony Rendon, new Assembly speaker, is no machine hack," *San Francisco Chronicle*, April 2, 2016. Available at <https://www.sfchronicle.com/bayarea/williesworld/article/New-Assembly-speaker-is-no-machine-hack-7223919.php>.

³Warren, however, is the only governor to have been elected to more than two *consecutive* terms. Warren's third term was completed by the Lieutenant Governor of that period, Goodwin ("Goody") Knight. At the time, there were no term limits applicable to the governor or to other state officials. Term limits were imposed by the voters in 1990. But Jerry Brown was able to serve four terms because the initiative that imposed term limits was not retroactive to his first iteration as governor.

Because gubernatorial terms closely coincide with the calendar year while budget years begin on July 1, Brown's final budget for fiscal 2018-19 covered the last six months of his fourth and last term and the first six months of his successor's. Brown's high-speed rail was already under construction – although without sufficient funds for completion. Funding for another Brown infrastructure project – a twin water tunnel (the “Delta Fix”) – was not locked in. There was no guarantee that either project would be completed. So, to the extent that Brown was leaving a legacy in his budget, it was mainly the buildup of a reserve – the “rainy-day” fund – which he would be leaving to the future.

Brown's second iteration as governor began in a budget crisis linked to the Great Recession of 2008 that he had inherited from his predecessor, Arnold Schwarzenegger. The rainy-day fund was supposed to be protection against the next recession which Brown believed was likely to arrive during his successor's term in office. Indeed, whenever he held a budget-related news conference, Brown was apt to warn about the precarious nature of California state finance and the need to put reserves away for the inevitable future downturn. Yet his final budget was not a pure model of thrift. It was, nonetheless, Brown's fiscal legacy for Newsom to inherit.

In what follows, we will outline the development of that final budget and the political atmosphere that surrounded it. Keep in mind that the budget is arguably the most important piece of legislation that a state can enact. On the spending side, it expresses a set of priorities for use of public resources. On the tax side it provides a variety of incentives and disincentives for various activities. Almost every state public policy is in some way embedded in the budget. Yet, as we also will point out, budgetary language – such as the seemingly basic concepts of surplus and deficit – is remarkably fuzzy.

Understanding the Budget: Basics

“I think people in California can be proud that we're making progress.”

Gov. Jerry Brown on signing the 2018-19 budget⁴

Most Californians tend to judge state fiscal policy by whether there seems to be a crisis or not. They may not be “proud” of the budget or the budget process, but they are sensitive to whether budgeting appears to be a problem. However, few people have knowledge of the budget or the budget process. Thus, the “progress” that the governor referred to in the quote above is not something most people can evaluate, beyond the fact that things in Sacramento seem much more serene than they were when Jerry Brown assumed the governorship in January 2011. So just what is the state budget? How can it be evaluated?

The General Fund

The California budget follows a pattern typically found in most state and local governments. (The federal government has different arrangements.) There is a “General Fund” which can be thought of as a checking account used for ongoing services. In the California case, education at all levels is the largest component of the General Fund. In addition, there are various social welfare functions, the state prisons, and numerous other functions. Exactly what activities are in the General Fund varies with the

⁴Quoted in John Myers, “With one final signature, Gov. Jerry Brown closes the chapter on his quest to reshape California's budget,” *Los Angeles Times*, July 1, 2018. Available at <http://www.latimes.com/politics/la-pol-ca-jerry-brown-budget-legacy-20180701-story.html>

level of government and over time. But when you hear discussion about the state budget, it is likely to revolve around the General Fund.

Like your checking account, we can distinguish between flows and stocks. Flows occur over specified time periods. In California, the budget is enacted for fiscal years beginning each July 1. So, when we talk about state spending, usually what is being discussed is the annual appropriation (the annual outflow from the General Fund planned for a fiscal year). State revenue is mainly the inflow of taxes and “fees” (user charges for various state services). However, revenue can also flow into the General Fund from interest payments received by the state and other miscellaneous sources.

At any moment in time, your checking account will have a reserve or balance in it. Banks will usually require that there be enough money in your account at all times so that any expenditures (checks) can be covered. However, some accounts may come with overdraft privileges so that if your balance goes negative, the bank will lend you sufficient funds to cover any excess outflows from your account. The General Fund is similar in that the state must have money available to meet expenses as they occur. If the balance goes negative in the General Fund, the state must obtain added funds by borrowing. It can do so through external borrowing, i.e., by obtaining the funds from “Wall Street,” or through internal borrowing from other funds that the state operates outside the General Fund.

Short-Term Borrowing

When the state needs to borrow to cover cash deficiencies in the General Fund, and it borrows externally, it typically uses “Revenue Anticipation Notes” or RANs. These are short-term, interest-bearing securities issued by the state with a duration of less than a year. RANs have not been needed in recent years, but in periods of fiscal stress they become necessary. Basically, RANs deal with seasonality. Within a fiscal year, revenue from the various taxes comes in unevenly and does not necessarily match the ups and downs of expenditures. Thus, even when the General Fund in the course of a fiscal year will take in enough money to cover all planned expenses for that year, there could be points within the year in which outflows will exceed inflows to the point where borrowing is needed.

On rare occasions during budget crises, the fiscal year may end with a deficiency, i.e., planned revenues may turn out to be insufficient to cover outflows for the entire year. When such developments occur, the state can issue “Revenue Anticipation Warrants” (RAWs) which, like RANs, are short-term securities, but which, unlike RANs, cross from one fiscal year into another.⁵ In really severe budget crises, the state may find itself unable to borrow to cover a cash deficiency. On those rare occasions, it may issue IOUs – known as Registered Warrants – to those to whom it owes money. The last time such IOUs were issued was in the summer of 2009 in the aftermath of the Great Recession. In effect, such IOUs are involuntary loans from those to whom the state owes money. In 2009, the unlucky lenders were state income taxpayers to whom refunds were due and some suppliers of goods and services to the state.

Other Funds

Above we noted the possibility of borrowing internally from funds outside the General Fund. The state has many earmarked funds set up by the legislature for particular purposes. These funds may have specific tax or fee sources. They may have positive cash balances in them at any moment in time. The

⁵RANs, like longer-term state securities (bonds), are issued by the state treasurer. RAWs are issued by the state controller.

largest of these funds involved transportation. The gasoline tax and various other motor-vehicle related taxes and fees finance the transportation system – roads and transit – and go into special funds for that purpose. But there are many, many other funds, some quite small.

If there is a cash deficiency in the General Fund, the state controller can borrow from these other funds temporarily to cover the deficiency. But if this practice is used excessively, these special funds cannot fulfill the purposes to which they are dedicated. (You cannot fix a road with an internal IOU.) Thus, during budget crises, when there is a temptation to drain the other funds to cover deficiencies in the General Fund, external borrowing (RANs and sometimes RAWs) becomes more attractive. Effectively, the state controller has to balance these needs.

Usually, in common parlance, when ordinary people think of a budget “deficit,” they have in mind a situation in which the yearly outflows exceed the inflows. When they think of a “surplus,” they have in mind a situation in which more money is flowing in than flowing out. When you hear of the federal deficit, it is with these flow concepts in mind. Unfortunately, at the state level, there is much muddier language. There is a tendency to mix up stocks and flows, and sometime to be loose about what time period is being discussed.

Surpluses and Deficits

Let’s go back to the checking account analogy. Suppose at the beginning of the year, you had \$1,000 in your checking account. That balance (or reserve) is a stock, i.e., something that exists at a specified moment in time. During the course of the year, you will be receiving income, perhaps from wages and/or investments, and depositing these receipts into your account. And you will be spending money from the account (for food, rent, utilities, or whatever). If, at the end of the year, your balance is \$1,200, that must mean that net over the year, you put in \$200 more than you took out. We could thus say you had a surplus (a net *inflow*) for the year of +\$200. If, at the end of the year, you had a balance of, say, \$700, that must mean you spent \$300 more than you took in. That -\$300 net *outflow* is your deficit.

What would be the policy implication of running a surplus? You might feel that given the situation, in the future you would scrimp less and spend more money on consumption that you had been avoiding. Or you might think it was wise to keep running a surplus and save for retirement or a deposit on a house or some other future purpose. What would be the policy implication of running a deficit? You might think to yourself that if you kept up spending more than you were taking in, you would - after a few years - find yourself in financial difficulty. So maybe it would be a good idea now to rein in your spending (or maybe work more to increase your income).

What wouldn’t be a good idea if your balance was falling year after year would be to view your situation as having a balanced budget and thus not something about which to be concerned. However, in state budget language, a situation of an ongoing deficit – but not yet having run out of money – is sometimes misleadingly described as a budget in “balance,” or a “balanced budget.” Budget officials may even resist the idea that a situation of outflow > inflow is a deficit because there is still some money in the till – until one day there isn’t, and then there’s a crisis. In the past, California has been known to fall victim to such sloppy thinking.

Keep these thoughts in mind as we examine the budget. At this writing, and as the 2018-19 budget was being enacted, the economy was expanding. It had been expanding since the bottom of the Great

Recession in 2009. In the public view, the budget crisis that Jerry Brown had inherited from Arnold Schwarzenegger after the gubernatorial election of 2010 is a distant memory. No one cares much about sloppy budgetary language when the climate in Sacramento seems sunny. But it is always a good idea when fiscal affairs are considered to give some thought to how prepared we are for the next crisis. And sloppy thinking won't help.

From the Abstract to the Real Numbers

"One thing governors don't like is to be presiding over a hemorrhaging budget because people do blame them."

Governor Jerry Brown⁶

The state uses two accounting methods. The cash basis simply records actual cash receipts and disbursements as they occur and state accounts on that basis reported monthly by the state controller. The accrual method, described below, is the approach used for the official budget. Table 1 shows the history of budgeting in cash terms from 2012-13 through 2017-18, i.e., during Governor Jerry Brown's second iteration. Within that period, General Fund receipts rose year by year, but the rise was particularly dramatic during 2017-18, the fiscal year that ended on June 30, 2018. Disbursements from the General Fund also rose year by year, and in some years, they have exceeded incoming receipts on a cash basis.

However, some of those disbursements are in fact transfers to an account for reserves, shown on the table as the Special Fund for Economic Uncertainty – SFEU (a precautionary balance linked to the General Fund. Some of the disbursements are placements of monies into the "rainy-day fund," formally known as the Budget Stabilization Account (BSA). Since such placements are forms of governmental savings rather than what we normally think of as government spending, we need to adjust the gross surplus or deficit in the General Fund to reflect them. As can be seen on the table, there were net surpluses in four of the six years shown. And, again, the result in 2017-18 was particularly dramatic (and positive).

Despite the dramatic outcome, when that year's budget was being planned, although a surplus was projected, drama was not on the menu. The projected surplus was notably less than its actual outcome. That discrepancy is a reminder that a proposed and an enacted budget are inherently forecasts. Receipts will vary from what is planned, depending on the actual course of the economy. Spending will also vary depending on such factors as trends in eligibility for entitlements. There is also a "strategic" element in making budget projections. Governor Brown tended to tilt toward conservative revenue forecasts as a check on legislative appetites. Given that proclivity of the governor, perhaps it is not surprising that the budget for 2017-18 included a projection that underestimated receipts and overestimated disbursements.

Although the official reserve accounts are intended as a cushion in case of some future economic downturn, the state in fact has other options to deal with such an adverse event. Because there are significant funds outside the General Fund designated for various purposes, the accounts that are linked

⁶Quoted in Alejandro Lazo and Nour Malas, "Jerry Brown's Legacy: A \$6.1 Billion Budget Surplus in California," *Wall Street Journal*, January 10, 2018. Available at <https://www.wsj.com/articles/jerry-browns-legacy-a-6-1-billion-budget-surplus-in-california-1515624022>.

to those purposes will (or may) have cash in them at any point in time. Cash can be borrowed from those outside funds (internal borrowing) and used to cover needs of the General Fund. As Table 1 shows, such “unused borrowable resources” have grown steadily to almost \$40 billion at the close of fiscal year 2017-18. Those resources include funds outside the General Fund from which money could be borrowed.

Chart 1 tracks the end-of-year ratio of unused borrowable resources to receipts from the period shortly before the Great Recession through 2017-18. At the bottom of that recession, the ratio fell to about 8 percent. Shortly after that decline, California had to hand out IOUs (registered warrants) to some state creditors. While 8 percent may seem to be an adequate, though low, ratio, there is considerable seasonality in unused borrowable resources, i.e., fluctuations *within* a fiscal year.

For example, Chart 2 shows the month-by-month variation of the ratio during the relatively flush 2017-18 year. The level of unused borrowable resources varied from a low of almost \$22 billion to a high of almost \$40 billion. Moreover, as noted, while unused borrowable resources can provide a cushion beyond official reserves, if outside funds are filled up with IOUs from the General Fund rather than cash, they will not be able to finance the activities they are supposed to underpin.

Accountants will tell you that there are drawbacks to cash accounting for analytical purposes. As a simple example, a tax payment that is due by June 30 might not be received and recorded until July 1. But on a cash basis, that one-day delay moves it from one fiscal year to the next. A bill for a service rendered in June may not arrive until July, also causing a shift between years. Indeed, cash accounting can be manipulated if there is some reason to want to make one year look better or worse than some other adjacent year. As a result, accountants often prefer “accrual” methodology which links receipts and spending to the appropriate time periods, regardless of their actual timing.

Accrual accounting, however, is in practice also subject to manipulation. And, in the case of state budgeting, accrual methodology is whatever the governor and legislature say it is. In principle, however, whatever the methodology is, it should be possible to reconcile accounts based on cash with alternatives based on accrual. Unfortunately, no such reconciliation is available for California. Although the controller’s cash accounts and the Department of Finance’s accrual accounts are readily available on the web, neither source offers a table converting one to the other. That omission is an important defect of state accounting.

Table 2 shows the accrual accounts maintained by the Department of Finance. They show a generally improving total reserve stock, thanks to a flow of budget surpluses in most years. Notably, however, Governor Brown’s final budget (for 2018-19) shows a small deficit and – therefore – a drop in total reserves. (The rainy-day fund rises, but the reserve for the General Fund falls by more than the rainy-day fund rises.) That outcome, as we noted above, is a forecast of what will happen in the course of 2018-19.

It could be that Brown’s tendency to be conservative in budgeting produced a result on paper that will prove to be more positive than projected. That is, it could turn out that more revenue than forecast will be received and/or that spending will be less than officially anticipated. Table 3 indicates that on an accrual basis (as on the cash basis discussed earlier), total ending reserves for the year 2017-18 were higher than projected (by \$7 billion on an accrual basis). The better-than-projected results came from greater revenues than originally projected.

While we cannot know for certain what the future will hold, we can trace the steps that led to enactment of the 2018-19 budget. Of course, much of what is found in any budget is a continuation of programs. So, although the budget is officially focused on a specific twelve-month period, one budget tends to blend into the next, particularly during periods of economic expansion. Below, the developments that led up to enactment of the 2018-19 budget are explored.

Wrapping Up and Getting Ready: Beginning the 2017-18 Fiscal Year

"If we don't get (an extension of cap-and-trade), it'd be a tragedy for California and for the world."

Gov. Jerry Brown⁷

As noted, the budget of any government can be seen as the most important document it creates. As it happened, although there was no statewide election in 2017, with Jerry Brown in his final term, there already was jockeying during the summer of 2017 as to who would succeed him. The same was true for lower state offices, too, although those contests were less visible. But although there was political debate about some aspects of state spending and taxation, the overall budget and its sustainability was little discussed.

When we think of the legislature enacting a budget, we tend to imagine that there is one (huge) bill that is passed. Although there is a lengthy and detailed budget bill, the enactment process also includes a host of "trailer bills" that contain budgetary details. Trailer bills typically are quickly passed without separate hearings. They also create an opportunity for a variety of items to be enacted without much external scrutiny that are only nominally connected to the budget.⁸

BOE

One set of elective offices, which most Californians know little or nothing about, is at the state Board of Equalization (BOE). BOE is controlled by four regionally-elected members plus the state controller and has been the site of various recent scandals. It was originally established in the 19th century to ensure that property taxes were assessed comparably and fairly across local jurisdictions. However, since the passage of Prop 13 in 1978, which sets property taxes by a specified formula, that function is largely a relic. BOE has other tax collection functions, notably linked to sales taxes, and handles appeals by taxpayers. Since it is embedded in the state constitution, BOE cannot be easily abolished. But at the same time that it enacted the 2017-18 budget, the legislature through a trailer bill pulled major functions regarding appeals away from the Board. It created a new administrative entity under the governor to assume those functions.

Other Trailers

There were other trailer bills as well that had a limited connection to the 2017-18 budget. One tightened up a gun control provision in state law in response to a loosening at the federal level by the Trump administration. Another sought to slow down the recall process as an aid to Democratic State Senator Josh Newman. Newman (not to be confused with Newsom) had been targeted by Republicans for voting

⁷Quoted in Christopher Cadelago, "Jerry Brown says his climate plan is in danger. To lose would be a tragedy 'for the world,'" Capitol Alert of *Sacramento Bee*, July 11, 2017. Available at <https://www.sacbee.com/news/politics-government/capitol-alert/article160846884.html>.

⁸Trailer bills avoid the normal process of public hearings and scrutiny.

for a hike in the state gasoline tax and other motor-vehicle related taxes earmarked for transportation infrastructure. He was narrowly elected in a “swing” district in which a gas tax increase could be a major issue.

A tax-related recall would normally trigger a special election in which Republican turnout would likely be high. Democrats aimed at a delay of the recall to the June 2018 primary (a year later) in which Democratic turnout would be more likely to give Newman a better chance at survival. Litigation and legislative action continued throughout the fiscal year (and eventually – despite the delay – Newman lost his seat).

The anti-gas tax issue was seen by the two leading Republican gubernatorial candidates, businessman John Cox and Assemblyman Travis Allen, as a potential campaign platform.⁹ Competing initiatives that would undo the gas tax increase were filed for the November 2018 general election; one eventually made it to the ballot. Cox had earlier pushed for a plan that would divide the legislature into very small districts so that there would be something like 12,000 representatives rather than the current 40 in the senate and 80 in the Assembly. But he seemed to have dropped that proposal and focused on his opposition to the gas tax increase. Allen pointed to his loyal support for Donald Trump in the 2016 presidential election and emphasized that Cox instead had voted Libertarian in that election.

Unions

As noted, the budget can be viewed as a statement of priorities. But whose fiscal priorities are being expressed? Many groups have an interest in budget outcomes and state policy more generally. One group that has been influential among Democrats in the legislature is public sector unions. Although the so-called *Janus* decision was a year away, that case before the U.S. Supreme Court with regard to union dues and fees was likely to go against unions given the Court’s 5-4 conservative court majority.

Union members pay dues to support their organizations. Non-members by law receive the same pay and benefits as members and, in addition, the union by law must represent them in disciplinary procedures and grievances. In California, and in many other jurisdictions, non-members can thus be assessed a fee for collective bargaining representation lower than standard dues, which omits union political expenses. The likely *Janus* decision would abolish such non-member fees. Unions feared that the result would be a loss of revenue and possibly a decline in membership. The legislature enacted some new policies designed to make it easier for state unions to recruit members and limiting access of conservative groups that might seek to persuade workers not to join. (And a year later, the expected 5-4 *Janus* decision indeed was issued by the Court.)

Single-Payer

One union in particular, the California Nurses Association, had been actively supporting “single-payer” health insurance in California, and had helped push a bill for single-payer through the state Senate. There are various versions of single-payer, but in general it would replace private insurance companies

⁹Another Republican, former Assemblyman David Hadley, briefly entered the Republican gubernatorial race and then dropped out after a few weeks. Former Republican Congressman David Ose was also briefly in the race. San Diego Mayor Kevin Faulconer, a Republican, was rumored to be considering running – but he never did. And there were a variety of other minor candidates. One candidate, a fellow named Johnny Wattenburg with no party affiliation, provided a two-word candidate statement in the official ballot booklet sent to all voters: “*Why not!*”

with one comprehensive state-run program. The Senate bill was lean on details about how this shift to state provision would happen and, among other problems, had no funding mechanism.

In addition, it is not clear the legislature could legally enact single-payer without a ballot proposition. The large taxes that would replace private premiums would conflict with voter-enacted constitutional provisions that control state spending on K-14 (Prop 98 of 1988) and that put a limit on spending (Prop 4 of 1979 – The “Gann Limit”). Finally, such a plan would require federal agreement, which the state would be unlikely to obtain from the Trump administration.

Given these concerns, Assembly Speaker Anthony Rendon essentially killed the bill. But the single-payer issue continued to roil Democrats. There were “centrists” – who wanted to focus on universal health care based on the current system and on defending the current system from Trump administration attempts to end “Obamacare.” And there were “Berniecrats” who wanted single-payer.¹⁰ The split played out through the remaining fiscal year in the campaign for the gubernatorial nomination up until the June 2018 primary.

Thereafter, when the top-2 primary system ended with Gavin Newsom, the Democrat, and John Cox, the Republican, the issue faded. Newsom had tended to waffle on the single-payer issue; he would say that he was for it as a goal (Berniecrat), but that it would take a long time to get there (pragmatist). Cox was against not only single-payer but also the existing “Obamacare” system as it had played out in California.

Cap-and-Trade

The last big legislative battle in the wrap-up period following the signing of the 2017-18 budget involved a bill extending the cap-and-trade program from 2020 to 2030. Unlike the gas tax hike, there was (some) Republican support for cap-and-trade as a result of a favorable view by the business community. Under cap-and-trade, what amount to pollution permits are issued in declining volume to meet the state’s declining cap on greenhouse gas emissions. The state derives revenue from auctioning off permits and the revenue is supposed to be dedicated to programs that reduce emissions. One of the major recipients of such revenue is the governor’s high-speed rail project.

Businesses that would otherwise be subject to direct command-and-control regulation prefer cap-and-trade because it allows more flexibility and efficiency than regulation in meeting the targets.¹¹ Although, as noted, there was some Republican support, there was also opposition because the cap-and-trade revenue is regarded as a quasi-tax and because of distaste in particular for the high-speed rail. In order to attract needed Republican votes, various compromises were made. These deals included the dropping of a fire prevention fee in certain (Republican-leaning) rural areas and a ballot proposition that might lead to a cutoff of funding for the rail project in 2024. Ultimately, seven Republicans voted for the compromise deal in the Assembly, and one Republican voted for it in the Senate.

¹⁰ Berniecrats were followers of Bernie Sanders who lost the 2016 Democratic presidential nomination to Hillary Clinton.

¹¹ Ironically, when it came to construction of new state office buildings, Governor Brown signed a decree requiring they move towards zero net energy, although an evaluation by the Legislative Analyst’s Office (LAO) suggested that cap-and-trade would have been a less costly way to achieve the same result. See Legislative Analyst’s Office, *Evaluating California’s Pursuit of Zero Net Energy State Buildings*, November 14, 2017. Available at <http://www.lao.ca.gov/reports/2017/3711/zero-net-energy-111417.pdf>.

Although there were eight Republicans in favor, one in particular was targeted by opponents of the deal, the GOP minority leader in the Assembly, Chad Mayes. There were calls for him to step down from his leadership position and allegation about an affair that he had had in the past. By late August 2017, Mayes had been removed from his post after surviving one party vote and then losing another.

Real Estate Concerns

As the legislative session was wrapping up, the governor signed bills aimed at fostering affordable housing. There was a bond to be put on the 2018 ballot to support construction of such housing and a fee on certain real estate transactions. At the same time, real estate interests were developing an initiative that would make it easier for senior homeowners to take their below-market Prop 13 assessments with them if they moved to a new house. Such movement generates commissions for realtors. But, by potentially lowering property tax revenues, the initiative would indirectly raise K-14 costs for the state in the future, since some of the lost revenue to school and community college districts would have to be backfilled by the state under Prop 98.

Other Issues

Some of the legislative action aimed at non-budgetary issues. After negotiations with the governor, the legislature passed the so-called “sanctuary state” bill (a label the governor preferred not to apply). Brown to some extent had to be concerned with not pushing the California-vs.-Trump agenda to the point where federal funding was endangered. For example, the feds were continuing to assist in funding repairs to the Oroville Dam, despite some evidence that cracks were appearing in the state-administered repairs. There were moves to shift the 2020 presidential primary from June to March in order to give California more influence in nominee selection. And there was already jockeying over future budget items, even before the legislative session concluded at the end of the September. For example, community colleges pushed for more funding in the coming (2018-19) fiscal year.

Developing the Initial 2018-19 Budget

“A lot of voters may not be paying attention to the current governor, but they seem to want more of what he is doing.”

Reporter and commentator John Myers¹²

The fall is generally the season in which the aftermath of the previous budget cycle ends and the beginning of preparation for the new cycle takes place. There is a tendency during periods of budgetary calm for people not to pay close attention to the details of state spending nor to how effective that spending is. Political leaders tend to focus on immediate concerns while programs that may have responded to past perceived needs tend to be continued by momentum.

For example, the state for many years had an Enterprise Zone program in which businesses that moved into designated distressed neighborhoods received tax credits. Evidence mounted that the Zones were not very effective as job-creation tools, and they were replaced in 2013 – a period when the economy was quite sluggish. The new program offered tax credits to selected businesses that seemed likely to

¹² John Myers, “Jerry Brown’s legacy a major question for hopefuls looking to replace him,” *Los Angeles Times*, November 12, 2017. Available at <http://www.latimes.com/politics/la-pol-ca-road-map-governor-race-jerry-brown-20171112-story.html>.

create jobs. In practice, however, there was a tendency to award the credits to firms with sexy products such as Tesla, the electric car maker. By late 2017, California was in a boom period with low unemployment and the jobs issue was less pressing. One report suggested that no one was really tracking the job results of the “California Competes” program.¹³ But the program, which might unkindly be seen as a taxpayer-financed slush fund, continued without much pressure for an evaluation.

Poll results suggested that while Californians generally rated the state’s higher education system as good or excellent, they were concerned about the tuition costs and about student access. Although politicians, policy wonks, and academics tend to discuss the system in terms of the 1960 Master Plan for Higher Education, only 37 percent of Californians claim to have heard of it.¹⁴ Despite the gaps in public historical knowledge, if someone had to guess in the fall of 2017 how the 2018-19 budget would turn out, a good guess would have been that, one way or another, tuition would be constrained. As support for that premonition, a forecaster might have taken note of Governor Brown’s signing a bill in October 2017 providing for free tuition at community colleges for first-time, full-year students.

Poll results also indicated that the controversial gasoline tax increases that the Democrats were able to pass earlier would continue to roil state politics. Not surprisingly, polls suggested that the gas tax hike was unpopular, even though it was aimed at improving transportation infrastructure. Ultimately, the gas tax issue in the form of the recall of Senator Newman could only be delayed as late as the June primary. And ultimately, in the November 2018 general election, the related repeal initiative might affect turnout in some potentially swing Congressional seats in California that could determine which party would control the U.S. House of Representatives.

Still, since he was in his final term with no further office in mind, Governor Brown was freer than he might otherwise have been to take positions that were not necessarily political winners. For example, he pushed in litigation for a modification of the so-called “California Rule” with regard to public pensions. Under that Rule, a benefit provision once promised to public employees cannot be cut back. So, any state (or local) pension problems could only be dealt with by either more expenditure on pensions or reductions in pension promises only to new hires. Some court decisions seemed to suggest that there could be cutbacks to current employees, not just new hires, a position unpopular with state and local unions since those decisions went against the California Rule. However, the unions – while taking the opposite position from the governor – had nowhere else to go. They could not support a Republican, so they tended to look the other way on the pension issue.

Although the Legislative Analyst’s Office (LAO) rarely makes specific budget proposals, it typically does produce what can be viewed as a “workload” budget in mid-November which indicates what the budget for the coming fiscal year would be if no major programmatic changes were made. As Table 4 shows, under that scenario, the combined reserves of the General Fund and the rainy-day fund were projected to rise by \$9.4 billion to close to \$20 billion, or to over fifteen percent of expenditures. The LAO

¹³ Judy Lin, “What new jobs? California program to entice hiring falls short,” *CALmatters*, November 21, 2017. Available at <https://calmatters.org/articles/new-jobs-california-program-entice-hiring-falls-short/>.

¹⁴ Public Policy Institute of California, *Californians & Higher Education*, November 2017. Available at http://www.ppic.org/wp-content/uploads/s_1117mbs.pdf. The original Master Plan went only through 1975. It is available at <https://www.ucop.edu/acadinit/mastplan/MasterPlan1960.pdf>.

suggested that a reserve of that level could survive a “moderate” recession for a year. After a year, however, some further steps cutting spending or raising revenue would be needed.¹⁵

The good news with regard to the workload budget was largely a reflection of the revenue growth that LAO projected that would come from general state economic growth. Governor Brown, who generally favored building up reserves and being cautious about spending and new commitments, could be expected to avoid starting new programs in his January 2018 budget proposal. And one way to curb legislative appetites would be to assume less revenue than what the LAO was forecasting. So, one might expect that his January plan would look like the LAO’s workload budget on the spending side, but that it would include a more restrained revenue projection. And that result is what occurred.

The First Budget Proposal: January 2018

“There are certain things you have to do that aren’t as pleasant as other things you have to do, but if it’s something you want to get accomplished, you will do it, and there will be different levels of joy, from zero to 100 percent.”

Governor Jerry Brown responding to a reporter
who asked if he was enjoying a European environmental trip¹⁶

Table 4 summarizes the governor’s initial budget proposal of January 2018. It differs from the LAO’s workload budget most dramatically in its revenue assumption, notably lower than LAO in the governor’s estimate. Indeed, as Table 3 shows, the governor’s assumed revenue for 2018-19 was what revenue for 2017-18 turned out to be. As a result, reserves at the end of 2018-19 are lower than shown by LAO, even though the governor proposed to put an extra \$3.5 billion (beyond the level required) into his rainy-day fund. However, an opinion poll showed strong voter support for the governor’s budget proposal, although it is doubtful that most respondents could have described what that budget contained.¹⁷ The voters presumably were simply offering general support to a governor who was perceived to have ended an era of budget crises, and who brought about fiscal calm in Sacramento.

Governor Brown did not generally propose major new programs. But he did include a new totally-online community college degree at a cost of \$120 million. The idea of disseminating courses electronically has

¹⁵Legislative Analyst’s Office, The 2018-19 Budget: California’s Fiscal Outlook, November 15, 2017. Available at <http://www.lao.ca.gov/reports/2017/3718/fiscal-outlook-111517.pdf>.

¹⁶Quoted in Christopher Cadelago, “‘I hate everything.’ Is Jerry Brown enjoying himself in Europe?” *Sacramento Bee*, November 13, 2017. Available at <https://www.sacbee.com/news/politics-government/capitol-alert/article184317923.html>.

¹⁷Sixty-six percent of “likely voters” and 67 percent of all adults in a California poll indicated support for the budget. Public Policy Institute of California, *Californians and Their Government*, January 2018. Available at <http://www.ppic.org/wp-content/uploads/s-118mbs.pdf>. Because respondents are in fact not familiar with the budget, the survey taker told them about it as part of its question, thus “framing” the information in ways that can influence the answer. In this case, the question was worded as follows:

Governor Brown recently proposed a budget plan for the next fiscal year that includes \$132 billion in general fund spending. The proposed budget will increase spending on K-14 and higher education, health and human services, and prisons and corrections. The proposed budget plan puts \$5 billion into the state’s reserves, which includes \$3.5 billion in additional funds to bring the rainy-day fund to 100 percent of its constitutional target and includes no new taxes. In general, do you favor or oppose the governor’s budget plan?

a long history. There were “Sunrise Semester” courses in the 1950s on television, and there were radio courses that go back to the 1920s.¹⁸ Brown’s online idea was opposed by community college faculty members, in part over fears of displacement, although in fact LAO estimated that 13 percent of community college courses were already online by the 2016-17 year.¹⁹ Ultimately, however, the governor got his way, and the plan became part of the enacted budget – at which point the internal opposition was dropped.²⁰

Once the governor submits his January proposal for the budget, the action turns to the legislature. Until mid-May, when the governor submits a modified proposal known as the May Revise, the legislature holds hearings on the disaggregated components of the proposal, mainly focused on the spending side. As part of the background information for such hearings, the LAO churns out publications about issues raised by the budget, or about other budgetary topics that are requested by the legislature. Some of these reports are relatively obscure, such as an analysis of a proposed addition to a local veterans’ home while others deal with major matters such as K-14 funding under Proposition 98.²¹

In addition, there were developments that could have budgetary impacts at some point, but which were not formally part of the budget. For example, there was a ballot initiative submitted for a “split roll” in property taxes that would tax commercial property at current valuations rather than market value at time of sale. Such a change could have a marked effect on both state and local budgets, but the effort eventually fizzled for 2018. (Proponents expect it to appear in 2020.)

The legislature killed an oft-submitted proposal to exempt tampons from being subject to the sales tax. That proposal, had it passed, likely would have been vetoed by the governor who disliked special exemptions. In any case, any prospects for revival were dimmed by the fact that the bill’s sponsor, Assemblywoman Cristina Garcia, was later caught up in “MeToo” allegations against her of sexual harassment.²²

An initiative to repeal the gas tax increase was successfully qualified for the November 2018 ballot. The repeal was opposed by all the Democratic candidates for governor and supported by the GOP candidates. Apart from its direct economic effect, the gas tax repeal – as noted earlier - was seen as an incentive to bring out Republican voters, possibly protecting/aiding Republican congressional candidates in “swing districts.”

¹⁸See <https://www.youtube.com/watch?v=FfsmxK0viLQ> for an example from the 1950s.

¹⁹Legislative Analyst’s Office, *Online Community College Proposal*, March 20, 2018. Available at https://lao.ca.gov/handouts/education/2018/Online_Community_College_Proposal_031918.pdf.

²⁰Brown also pushed for community college funding to be geared to student outcomes rather than just enrollment in his “Student Focused Funding Formula.”

²¹Legislative Analyst’s Office, *Proposed Changes to Veterans Home in Yountville*, March 6, 2018. Available at <https://lao.ca.gov/Publications/Report/3771>; Legislative Analyst’s Office, *Overview of Proposition 98 Budget Proposals*, February 21, 2018. Available at https://lao.ca.gov/handouts/education/2018/Overview_Proposition_98_Budget_Proposals_022118.pdf.

²²Garcia was opposed in the June 2018 primary by building trades unions angry over her support of environmental rules that threatened refinery jobs. The opposition raised the “MeToo” complaints against her as an issue. However, she came in first in the primary.

The GOP candidates for governor ultimately were winnowed to just businessman John Cox and Assemblyman Travis Allen. Although only the latter had supported Trump in 2016, Trump endorsed Cox as more likely to win the second spot in the California top-2 primary system. Cox was thus seen as more likely to ensure that there would be a Republican in the gubernatorial race, again in the hope of protecting congressional seats.²³ In this effort, Trump was joined by Democratic front-runner Gavin Newsom, whose poll numbers guaranteed that he would be the number one voter getter in the June top-2 primary. Newsom ran ads aimed at boosting Cox, since having a Republican as his sole opponent in November would allow him (Newsom) to coast to victory.

Apart from Newsom, the Democratic candidates in the June 2018 primary solidified as former LA mayor Antonio Villaraigosa, John Chiang, the state treasurer (and former state controller), and Delaine Eastin, the state secretary of education.²⁴ Among the Democrats, all but Villaraigosa indicated support for single-payer health insurance (although Newsom, as noted, tended to paint it as a long-term objective). Eastin, in addition, indicated that Jerry Brown's high-speed rail was not a major priority for her.

The candidate who most obviously might have emphasized budget expertise, John Chiang, seemed to lose that focus as the campaign progressed. Chiang had built an image of fiscal prudence over the years. Had he come in as number two in the top-2 primary against Newsom, that image might have attracted Republican and independent votes in November. But with two Republicans running in the top-2 primary, Chiang had little hope of attracting Republican votes in June. As a result, he instead made proposals for such things as a forty percent tuition cut for higher education.

Issues of state governance that might have made their way into the campaign never did so. There were, for example, ongoing administrative and governance issues in the state. Such issues included defects in Oroville Dam repairs, a data breach at the Department of Fish and Wildlife, and ongoing problems and cost overruns in a computer system the state has worked on for an extended period known as FI\$CAL. And there was the twin tunnel water project favored by Governor Brown, which for a time at least was downsized to a cut down one-tunnel system and then came back to two. All of these matters were reported in the news media. But, they were not highlighted by the candidates.

From May Revise to the Final Budget

"I think it's getting close to the end. I think I'm going to be O.K. with that."

Governor Jerry Brown²⁵

²³ Allen at one point in the campaign called for the arrest of Jerry Brown because of his support for the state's "sanctuary" policies. While such antics might appeal to some Republican voters, more centrists and Republican-leaning independents were more likely to be attracted to Cox. There were also some "MeToo"-type sexual harassment allegations against Allen in 2013 that could have become an issue in the November general election if he had succeeded in becoming number two in the top-2 primary.

²⁴ Amanda Renteria, a former U.S. Senate staff member, also entered the race. There was speculation she was a stalking horse for one of the other Democratic candidates aimed at splitting the Latino vote and thus harming Villaraigosa (which she denied). Her candidacy had little funding and never showed traction.

²⁵ Adam Nagourney, "For Jerry Brown, the Face of California's Old Order, the Ranch Is Calling," *New York Times*, January 24, 2018. Available at <https://www.nytimes.com/2018/01/24/us/jerry-brown-california-governor-retirement.html>.

Unlike the January budget proposal, which is mandated by the state constitution, the governor's May Revise budget is a traditional practice. The May Revise takes account of whatever new information on revenues and spending has developed and of the political response to the January budget proposal. Table 4 shows that Governor Brown's May Revise reflected higher estimates (compared with January) of starting reserves for the fiscal year 2018-19 and higher estimates of state revenues. Proposed spending was also raised with the result that the budget surplus (based on changes in total reserves) which was projected in January was reduced in May to near zero.

Legislative Action

Once the May Revise was released, the budgetary pace picked up in the legislature. The two houses put together their own separate budgets by early June which included more spending than the governor had proposed. Both legislative proposals included higher estimates of revenue for 2018-19, thus retaining small net surpluses. The task was then for the two houses to produce a single budget which could be enacted by the mid-June constitutional deadline.²⁶

At one time, when the legislature was more evenly split between Democrats and Republicans, whoever was governor would meet with both parties' leaders in the two houses, a total of five individuals including the governor, and negotiate a final budget deal. Even as Republican representation shrank, there remained a two-thirds vote requirement to pass a budget, giving the minority party a significant voice in the process. However, in 2010, voters enacted Proposition 25 allowing budgets to be passed by simple majorities.²⁷ Thus, in contemporary political arrangements, what was once described as the "Big-5" budget negotiations have effectively been reduced to the "Big-3" (the governor and the two majority leaders of both houses).

The Big-3 deal in this case had less spending than the two houses had proposed separately, but somewhat more than the governor's May Revise. Instead of a small projected surplus as in the May Revise, it had a small deficit on total reserve basis. In a bit of creative accounting, a third "Safety Net Reserve" was established to avoid certain constraints of the formula governing the rainy-day fund. Of course, whether the actual budget outcome will be in deficit or surplus will not be known until the end of 2018-19.

Brown Signs Off

Governor Brown could have exercised his line-item veto on the budget to trim spending further. But since he was part of the deal with the Democratic legislative leaders, he signed the budget into law "as is" with no vetoes. Of course, there could be either positive or negative developments as the budget goes into effect that will affect revenues and spending. For example, the U.S. Supreme Court issued a decision after the legislature enacted the budget, but before Brown signed it, that made it easier for states (including California) to collect online sales tax.²⁸ Before the decision, the uncollected sales tax

²⁶Under Proposition 25 of 2010 (which allowed passage of a budget with a simple majority vote), legislators are not paid for every day beyond the constitutional deadline that they fail to pass a budget. However, under court interpretation, it is up to the legislature to determine what a "budget" is.

²⁷See the previous footnote.

²⁸David G. Savage, "Supreme Court rules that internet businesses must collect all state and local sales taxes," *Los Angeles Times*, June 21, 2018. Available at <http://www.latimes.com/politics/la-na-pol-court-online-taxes-20180621-story.html>.

owed to California from out-of-state sellers was estimated to be in the range of hundreds of millions of dollars.²⁹

Political Accompaniment

In the background of the budget enactment was the primary election on June 5, 2018. As noted earlier, the top-2 primary at the gubernatorial level produced two candidates for the November general election, Democrat Gavin Newsom vs. Republican John Cox. It also demonstrated continuing strains in the California Republican Party, the counterpart of Berniecrats vs. Pragmatists in the Democrats. Within the Republicans, it was Trumpies vs. Never-Trumpers.

Former (Republican) Governor Arnold Schwarzenegger indicated he could not support either Cox or (Republican) Travis Allen.³⁰ Jerry Brown's opponent in the 2010 gubernatorial election, Republican Meg Whitman, said she would be supporting Democrat Antonio Villaraigosa in the primary.³¹ Former Republican Congressman Tom Campbell, at one time a high official in the Schwarzenegger administration, called for creation of a new "pragmatic" party.³² On the other hand, Republicans did succeed in recalling Democratic State Senator Josh Newman with 58.1 percent of the vote for his support of the gas tax increase; he was replaced by Republican Ling Ling Chang.

June Propositions

Five propositions were on the state ballot in June. Table 5 provides a summary. A proposition that tightened the earmarking of the gas tax for transportation passed overwhelmingly (Prop 69). The tighter earmark was seen as helpful in avoiding repeal of the gas tax in November. A bond issue for environmental purposes was also enacted (Prop 68) along with an exclusion of rainwater recycling improvements from property taxes (Prop 72) and some technical changes in the timing of enacted initiatives (Prop 71).

What didn't pass was a proposition requiring a two-thirds legislative vote in 2024 for use of cap-and-trade funds (Prop 70). The proposition was aimed at potentially killing Governor Brown's high-speed rail and was put on the ballot in a deal in the legislature to pull in a few needed Republican votes. In the official ballot pamphlet, Brown was listed as a supporter of the proposition since his nominal support was part of the deal in the legislature. But obviously he preferred that it not pass.

Propositions That Weren't

Apart from putting things on the ballot, such as the propositions above, the legislature sometimes plays a role in keeping things *off* the ballot. Some cities were contemplating enacting taxes on sugary soda

²⁹Adam Ashton and Caitlin Chen, "Online sales tax ruling could bring 'hundreds of millions of dollars' to California," The State Worker blog of *Sacramento Bee*, July 2, 2018. Available at <https://www.sacbee.com/news/politics-government/the-state-worker/article214098319.html>.

³⁰John Myers, "Schwarzenegger won't vote for leading GOP candidates for governor," *Los Angeles Times*, June 1, 2018. Available at <http://www.latimes.com/politics/essential/la-pol-ca-essential-politics-may-2018-schwarzenegger-won-t-vote-for-leading-1527889146-htmlstory.html>.

³¹Casey Tolan, "Republican Meg Whitman backs Democrat Antonio Villaraigosa for governor," *Mercury-News*, May 24, 2018. Available at <https://www.mercurynews.com/2018/05/24/republican-meg-whitman-backs-democrat-antonio-villaraigosa-for-governor/>.

³²Tom Campbell, "California is in need of a new pragmatic political party," *Orange County Register*, June 4, 2018. Available at <https://www.ocregister.com/2018/06/04/california-in-need-of-a-new-pragmatic-political-party/>.

drinks, in part over concerns about obesity. Berkeley had already succeeded. Rather than fight the issue city by city, major soda companies had qualified an initiative for the November 2018 ballot requiring a two-thirds vote on general local taxes (not just those on soda). Local governments and public employee unions were fearful that such an initiative would pass and, therefore, agreed to a legislative deal to ban new soda taxes in exchange for proponents agreeing to ditch the initiative.

Two other initiatives were also pulled off the ballot after legislative deals. One was an initiative protecting online privacy. Tech companies agreed to a somewhat watered-down bill and the initiative died. Paint firms had qualified an initiative that would have saved them from liability for removing lead paint in schools and homes. The legislative leaders promised them that a compromise alternative could be reached. That promise was enough to kill the paint initiative.

Public Perception

As the new fiscal year 2018-19 began, there remained a host of issues – as there always is. Among them was the forthcoming battle over the gas tax repeal in November 2018. But unlike eight years earlier, when Jerry Brown had won the nomination to run for a third term as governor, there was no immediate budget crisis to worry and annoy the electorate. It's not that voters were uninterested in paint, privacy, or soda. It's just that a major budget crisis, such as existed in 2010, attracts much more attention. And what voters liked was that they didn't have to focus on Sacramento turmoil.

Memories and the Future

"...Jerry will probably be a chapter in the overall story of the Brown clan's impact on California. The main character in that story, however, will be his father, the legendary Gov. Pat Brown, who was credited with building the best highway, water and state university systems in the nation."

Willie Brown, former San Francisco mayor and Assembly speaker³³

"What we need is leadership, not stewardship."

Gubernatorial candidate Gavin Newsom, seemingly contrasting himself with Jerry Brown³⁴

As the budget for 2018-19 came together, there were beginning to be reviews in the news media of Jerry Brown and his legacy (despite Brown's periodic protests that he wasn't interested in legacies).³⁵ Although his high-speed rail project might be such a legacy, whether his successor as governor will be as

³³Willie Brown, "Why dump Chief Suhr? He's the best thing going for the SFPD," *San Francisco Chronicle*, May 13, 2018. Available at <https://www.sfchronicle.com/bayarea/williesworld/article/Why-dump-Chief-Suhr-He-s-the-best-thing-going-7468374.php>.

³⁴Quoted in Seema Mehta, "Gavin Newsom says California's next governor must do more than build upon Gov. Jerry Brown's legacy," *Los Angeles Times*, August 30, 2017. Available at <http://www.latimes.com/politics/essential/la-pol-ca-essential-politics-updates-gavin-newsom-says-next-california-1504119503-htmstory.html>.

³⁵Andy Kroll, "The Last Days of Jerry Brown," *California Sunday Magazine*, March 18, 2018. Available at <https://story.californiasunday.com/jerry-brown-last-days>.

enthusiastic a supporter of the project remains to be seen. Gavin Newsom has flip-flopped on the issue. So, the rail project's completion is in doubt. The twin tunnel (Delta Fix) water project supported by Brown remains in the planning stage. Its completion (or non-completion) will be entirely in the hands of others.

Brown has left a legacy of California as an anti-Trump "resistance" state. That posture doesn't help the state in obtaining federal funding, although so far it hasn't hurt. The University of California, for example, was able in June 2018 to renew its contract with the federal Department of Energy to manage the Los Alamos National Lab, an arrangement that dates back to the Manhattan Project of the 1940s.³⁶ Despite the resistance, Brown's role in that regard has been to moderate state opposition to Trump, in part due to the funding issue.³⁷ Whether the next governor will be as successful in carrying out that balancing act is uncertain. In addition, a younger California governor – Newsom was born in 1967 in contrast to Brown in 1938 - would be a potential Democratic rival for Trump in the 2020 election.

Apart from infrastructure, the state's component of "Obamacare" – including funding for the expansion of Medi-Cal - is threatened by the president's antipathy to that program. And changes in federal tax law enacted in late 2017 worked against high-tax states such as California, especially a \$10,000 limit imposed on deductions for state and local taxes. It was estimated that something under one million Californian taxpayers could be affected by the limit and would owe an extra \$12 billion per year to the feds.³⁸

At this writing, Brown is pushing for the state Supreme Court to resolve the applicability of the "California Rule" with regard to public pensions, both state and local. Whether the Court will do so before he leaves office is unclear. And it could decide to leave the Rule in place as is. So, at this writing, Brown's goal of a change in pension policy may not be achieved, at least not while he is office.

The result is that Brown's most tangible legacy is in fact an intangible, his rainy-day fund, a fund created by his predecessor, but filled up by Brown. However, as Jerry Brown learned at the end of his first iteration as governor, even a very large reserve can be blown away by a big enough downturn. Apart from the rainy-day fund, there is the online community college degree program, another intangible by the very nature of online services.

Brown will surely be remembered as California's longest serving governor. With term limits now in place, no future governor can serve four terms. But in the end, father Pat Brown's tangible legacy of the state water project, freeways, and new university campuses is hard to outdo. Brown Jr. surely remembers that Brown Sr. was defeated in the 1966 gubernatorial election by Ronald Reagan, in part due to a state budget crisis. However, few others remember that fiscal crisis of long ago or now hold it against the memory of elder Brown. They remember the tangibles.

³⁶The University of California formed a partnership including Texas A&M, Energy Secretary Rick Perry's alma mater, in formulating its bid.

³⁷Connie Bruck, "Inside California's War on Trump," *New Yorker*, March 26, 2018. Available at <https://www.newyorker.com/magazine/2018/03/26/inside-californias-war-on-trump>.

³⁸Franchise Tax Board, *Preliminary Report on Specific Provisions of the Federal Tax Cuts and Jobs Act*, March 20, 2018, p. 13. The estimates were based on 2015 California state tax data. Available at <https://www.ftb.ca.gov/law/legis/Federal-Tax-Changes/CAPreliminaryReport3Provisions-Revise.pdf>.

Table 1: General Fund Budget, Cash Basis, FY2012-13 – FY2017-18

\$billions	Brown Actual 2017-18	Brown Planned 2017-18	Brown Actual 2016-17	Brown Actual 2015-16	Brown Actual 2014-15	Brown Actual 2013-14	Brown Actual 2012-13
Receipts	136.7	129.4	122.6	120.4	116.4	104.0	103.4
Disbursements	-126.4	-128.4	-126.8	-123.6	-115.8	-99.6	-96.3
<i>Gross surplus/deficit</i>	10.4	1.0	-4.2	-3.2	0.6	4.4	7.2
Transfers to reserves							
SFEU	0.0	0.0	0.6	0.8	0.0	0.1	*
BSA	2.3	2.3	2.8	1.9	1.6	0.0	0.0
<i>Total reserve transfers</i>	2.3	2.3	3.4	2.7	1.6	0.1	0.0
<i>Net surplus/deficit</i>	12.7	3.3	-0.8	-0.5	2.2	4.5	7.2
<i>Unused borrowable resources</i>	39.9	33.4	37.0	35.2	28.3	23.8	18.8

SFEU = Special Fund for Economic Uncertainty

BSA = Budget Stabilization Account ("Rainy-Day" Fund)

Table 2: Official Budget Reserve Data

Accrual \$millions	Ending General Fund	Rainy Day Fund	Safety Net Reserve	Total Reserves	Net Surplus/ Deficit
2011-12	-\$1,615	-	-	-\$1,615	\$1,464
2012-13	2,528	-	-	2,528	4,143
2013-14	5,590	-	-	5,590	3,062
2014-15	3,445	\$1,606	-	5,051	-538
2015-16	4,504	3,529	-	8,034	2,982
2016-17	5,702	6,713	-	12,415	4,382
2017-18	8,483	9,410	-	17,893	5,478
2018-19	3,127	13,768	\$200	17,095	-798

Note: This table corrects and updates the equivalent table in last year's budget chapter of *California Policy Options*.

Source: California Department of Finance, Historical Tables. Available at http://dof.ca.gov/budget/summary_schedules_charts/documents/CHART-H.pdf and Table 3 of this chapter.

Table 3: California Budget Summary

\$ Millions	2017-18 Enacted	2017-18 June 2018	2018-19 June 2018
GF Starting Reserve	\$1,622	\$5,702	\$8,483
Revenue & Transfers	\$125,880	\$129,825	\$133,332
Expenditures	\$125,096	\$127,044	\$138,688
GF Surplus/Deficit	+\$784	+\$2,781	-\$5,356
GF Ending Reserve	\$2,406	\$8,483	\$3,127
BSA-Start of Year	\$6,713	\$6,713	\$9,410
BSA-End of year	\$8,486	\$9,410	\$13,768*
BSA Surplus/Deficit	+\$1,773	+\$2,697	+\$4,358
Safety Net Reserve**			
Start of Year	na	na	\$0
End of Year	na	na	\$200
Safety Net Reserve**			
Surplus/Deficit	na	na	+\$200
Total Reserves			
Surplus/Deficit	+\$2,557	+\$5,478	-\$798
Total Ending Reserves	\$10,892	\$17,893	\$17,095
As % of Expenditures	8.7%	14.1%	13.0%

GF = General Fund

BSA = Budget Stabilization Account ("rainy day fund")

*Some of the funds designated for the BSA are contingent. A separate "Budget Deficit Savings Account" will hold a \$2.6 billion optional deposit to BSA. In May 2018, if less General Fun revenue than projected is received, the deposit to the BSA will be reduced.

**The "Safety Net Reserve" is a fund created for the 2018-19 budget that avoids certain limits in the formula governing the BSA.

Sources of Tables 1 and 2: May Revise and Senate and Assembly versions:

<http://www.lao.ca.gov/Publications/Report/3832>; January 2018 budget proposal:

<http://www.ebudget.ca.gov/2018-19/pdf/BudgetSummary/SummaryCharts.pdf>; LAO November 2017 outlook:

<http://www.lao.ca.gov/Publications/Report/3718>; BSA at start of 2017-18 and June 2017 enacted budget:

<http://www.ebudget.ca.gov/2017-18/pdf/Enacted/BudgetSummary/SummaryCharts.pdf>; Final budget:

<http://www.ebudget.ca.gov/FullBudgetSummary.pdf>.

Table 4: Evolution of 2018-19 Budget

	LAO	Governor		Legislature		
Accrual \$ Billions	Nov. 2017	Jan. 2018	May Revise	June Senate	June Assembly	June Final
GF Reserve Start of Year	\$4.7	\$5.4	\$8.5	\$7.8	\$8.4	\$8.5
Revenue & Transfers	\$135.5	\$129.8	\$133.5	\$135.8	\$136.4	\$133.3
Expenditures	\$131.7	\$131.7	\$137.6	\$139.7	\$140.4	\$138.7
GF Surplus/Deficit	+\$3.7	-\$1.9	-\$4.0	-\$3.9	-\$4.0	-\$5.4
GF Reserve End of Year	\$8.4	\$3.5	\$4.4	\$2.7	\$4.4	\$3.1
BSA-Start of Year	\$8.0	\$8.4	\$9.4	\$9.4	\$9.4	\$9.4
BSA-End of year	\$11.8	\$13.5	\$13.8	\$13.9	\$13.8	\$13.8
BSA Surplus/Deficit	+\$5.6	+\$5.1	+\$4.4	+\$4.5	+\$4.5	+\$4.4
Safety Net Reserve*						
Start of Year	na	na	na	\$0	na	\$0
End of Year	na	na	na	\$1.0	na	\$0.2
Safety Net Reserve*						
Surplus/Deficit	na	na	na	+\$1.0	na	+\$0.2
Total Reserves Surplus/Deficit	+\$9.4	+\$3.2	+\$0.3	+\$1.6	+\$0.5	-\$0.8
Total Ending Reserves	\$19.9	\$16.9	\$18.2	\$17.6	\$18.2	\$17.1
As % of Expenditures	15.1%	12.8%	13.2%	12.6%	13.0%	13.0%

Details need not add to total due to rounding.

*The "Safety Net Reserve" is a fund created for the 2018-19 budget that avoids certain limits in the formula governing the BSA.

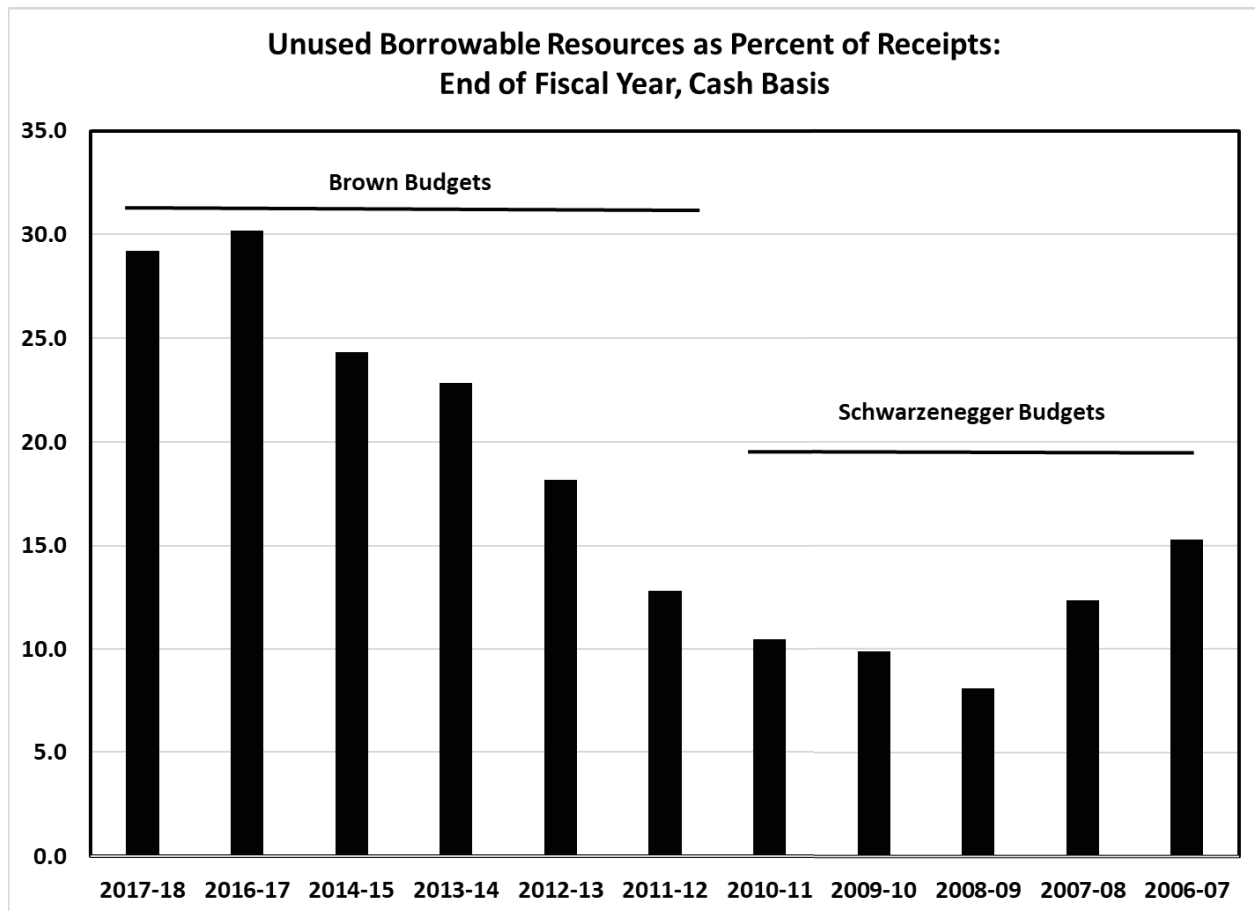
Source: See Table 3.

Table 5: Ballot Propositions on the June 2018 Primary Ballot

Prop 68: \$4.1 Billion Bonds for Drought, Water, Parks, and Other Environmental Purposes. Passed 57.4%
Prop 69: Tighter Earmarking of Gas Tax for Transportation. Passed 81.0%
Prop 70: Required 2/3 Vote to Allocate Cap-and-Trade Funds in 2024. Failed 38.3%
Prop 71: Technical Change Setting Initiatives Starting Date After Official Vote Certification. Passed 79.6%
Prop 72: Excludes Improvements in Rainwater Recycling from Being Assessed for Property Tax. Passed 84.6%

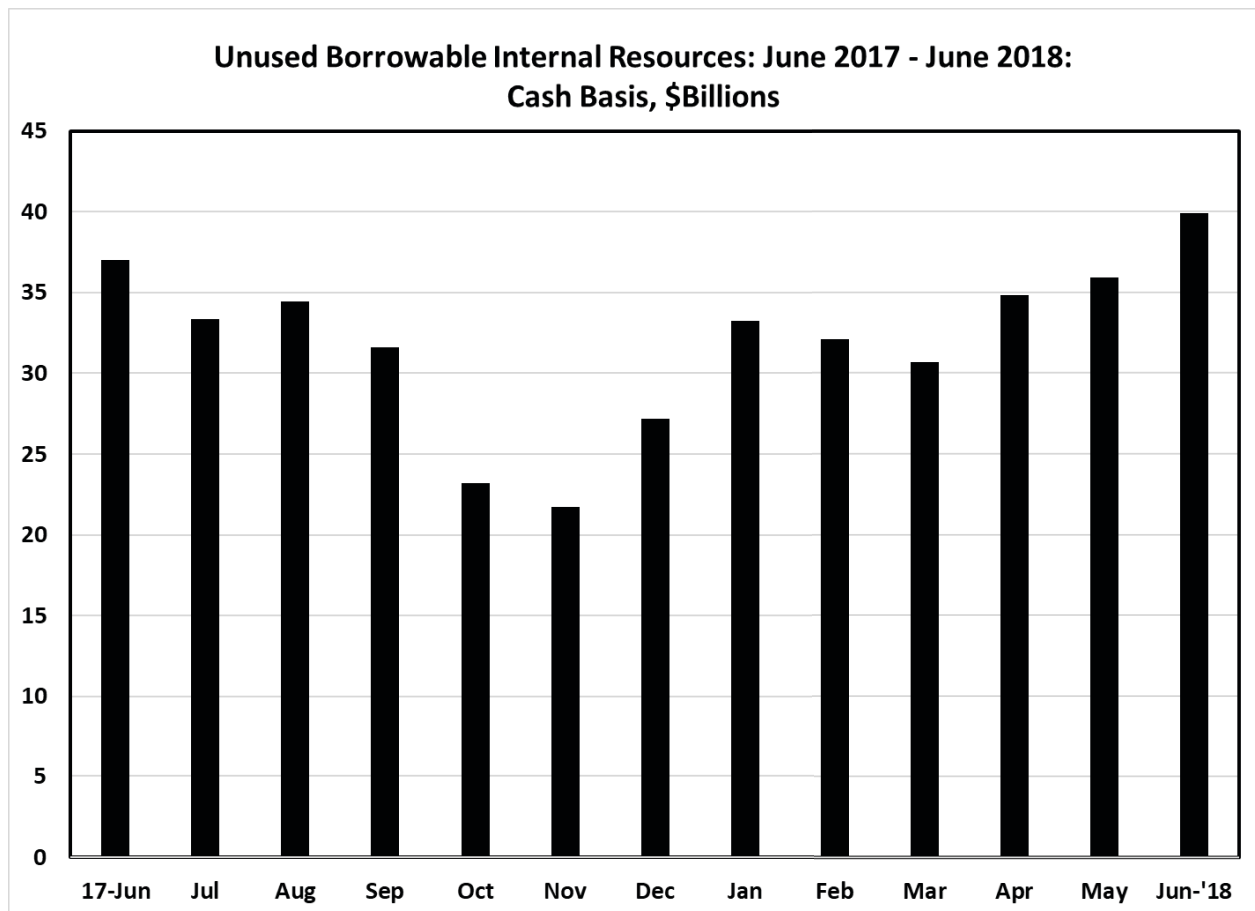
Source: California Secretary of State, Statewide Direct Primary Election - Statement of the Vote, June 5, 2018. Available at <http://elections.cdn.sos.ca.gov/sov/2018-primary/sov/132-ballot-measures.pdf>.

Chart 1:



Source: California State Controller, June editions. Available at https://www.sco.ca.gov/ard_state_cash.html.

Chart 2:



Source: California State Controller, monthly cash statements for months shown. Available at https://www.sco.ca.gov/ard_state_cash_fy1718.html and <https://www.sco.ca.gov/Files-ARD/CASH/June%202017%20Statement%20of%20General%20Fund%20Cash%20Receipts%20and%20Disbursements.pdf>.

Chapter 9

California Forecast: OK for Now But Housing Costs Remain an Issue

Robert Kleinhenz

Robert Kleinhenz is an economist and the Executive Director of Research, Beacon Economics.

This chapter reflects information available as of early October 2018, and does not reflect later developments.

During 2018, it has become apparent that the California economic engine continues to hum along, much like the nation as a whole. California represents a bit over eight percent of total national economic activity and its economy is heavily intertwined with the rest of the U.S. So good national performance translates into good state performance. Job gains in California have been steady and the state's leading industries have expanded despite ongoing concerns on the international trade front.

But there are potential problems and uncertainties. Some are national, such as political battles in Washington, possible trade wars and disputes over exchange rates, and presidential confrontations with the Federal Reserve about monetary policy. But there are also concerns specific to California especially lingering anxieties about California's extremely tight housing market and the resulting (un)affordability challenges it presents. The legislature has considered rebalancing authority over development decisions between the state and local governments. A rent control initiative was placed on the November 2018 ballot. These political developments reflect the public concern with housing. In addition, there are the potential consequences of slow growth in the state's labor force (which may in part reflect the high cost of housing).

CONTINUED STRONG ECONOMIC PERFORMANCE

California continued to land in record territory with its unemployment rate in the low four percent range by mid-2018, the lowest level achieved since 1976. At the same time, job growth at this writing has outpaced 2017 by a slim margin, with wage and salary jobs in July 2018 from twelve months earlier increasing by two percent. (Figure 1) Of the 332,700 jobs added in that period, Health Care and Leisure and Hospitality each contributed 58,000 positions, or more than one-third of the total, with Construction, Professional Scientific and Technical Services, and Transportation and Warehousing also reporting sizable gains among the private sector industries. This set of industries has consistently made the largest contributions to job gains in the state over the last several years.

The Government sector added to its ranks as well, increasing by 33,300 workers with roughly two-thirds of the increase occurring in Local Government and one-third in State Government (the Federal Government trimmed 2,500 jobs). All but one of the state's major industries experienced job gains between July 2017 and July 2018 , with only Mining and Logging seeing a loss of 300 jobs.

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Figure 1: Steady Job Gains Across California Industries

Industry	Jul-17 (000s, SA)	Jul-18 (000s, SA)	Y-T-Y Change	Y-T-Y % Change
Total Nonfarm	16,826.7	17,159.4	332.7	2.0
Health Care	2,280.4	2,338.4	58.0	2.5
Leisure and Hospitality	1,948.6	2,006.6	58.0	3.0
Construction	812.7	851.2	38.5	4.7
Government	2,552.5	2,585.8	33.3	1.3
Prof Sci and Tech	1,234.8	1,267.2	32.4	2.6
Transport/Warehouse	565.1	591.4	26.3	4.7
Admin Support	1,107.9	1,133.0	25.1	2.3
Educational Services	362.3	378.4	16.1	4.4
Information	528.7	544.0	15.3	2.9
Retail Trade	1,692.8	1,706.3	13.5	0.8
Manufacturing	1,309.5	1,317.4	7.9	0.6
Wholesale Trade	723.8	727.2	3.4	0.5
Management	231.9	235.1	3.2	1.4
Finance and Insurance	547.2	548.2	1.0	0.2
Real Estate	283.4	284.1	0.7	0.2
Other Services	563.9	564.4	0.5	0.1
NR/Mining	22.3	22.0	-0.3	-1.3

Note: Y-T-Y = Year to Year; SA = seasonally adjusted

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Similarly, headline numbers for California's Gross State Product and Taxable Receipts revealed continued growth in the statewide economy in the first part of 2018 (the latest data available at this writing). Real Gross State Product advanced by 3.5 percent year-to-year as of the first quarter, the fastest rate of growth since late 2015. Current dollar Taxable Receipts grew by 4.3

percent. A look at more detailed data shows healthy spending on the part of both state households and businesses. Taxable receipts on consumer goods rose 4.8 percent year-to-year while receipts on business and industry spending increased by 3.6 percent over the same period. In short, whether we look at employment, Real State Product, or Taxable Receipts, the same strong performance is apparent.

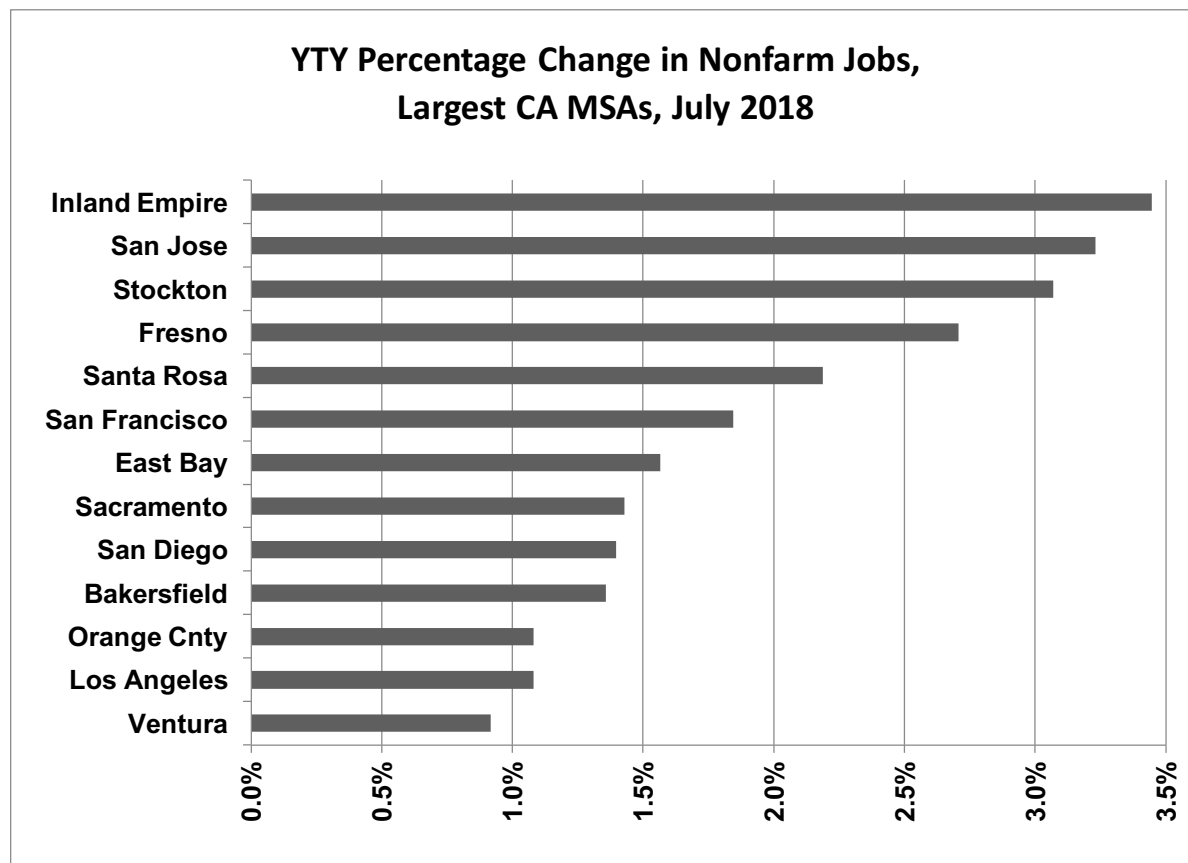
THE REGIONAL PERSPECTIVE

California is a large state, both in geography and population. As we move across the state, different regions are characterized by different industry mixes and other conditions and so economic performance among them varies. But both the coastal and inland regions of the state have enjoyed economic and job gains for several years running. (Figure 2)

Through the first seven months of 2018, every metropolitan area in California experienced job growth. Across the large metropolitan areas, job gains in the San Francisco Bay Area reflected the staying power of the Silicon Valley tech sector. The largest absolute and percentage increases occurred in San Jose.

In Southern California, the Inland Empire has consistently registered the largest percentage gains in jobs for in the immediate years up through 2018. However, Los Angeles County generally reports the largest absolute gains because of its size. Much of the growth in the entire region has come from Health Care, Professional Scientific and Technical Services, Construction, and Logistics. Metropolitan areas in the Central Valley have also seen employment growth overall, supported by job gains across a variety of sectors.

Figure 2



THE HOUSING MARKET'S MIXED PERFORMANCE

California's housing market was a mixed bag as of mid-2018. According to real estate firm Corelogic, the statewide median home price was \$481,100 in the second quarter, up 8.6 percent year-to-year. The median price was still about seven percent below its pre-recession peak despite a string of yearly price gains going back several years.

Meanwhile, home *sales* were running at an average pace, at best, and disappointing when considered against the backdrop of the state's long economic expansion. Home sales fell 0.9 percent year-to-year as of July 2018, and over the first seven months of 2018, were 1.4 percent

lower in year-to-date terms. Sluggish sales are symptomatic of the state's housing market, and due in part to tight lending standards on mortgages and lean supply (unsold inventory is still low at 3.3 months). It is noteworthy, however, that the number of listings over the period spanning February through August 2018 was higher than in 2017, with listings in August alone 21 percent higher than a year earlier. More listings could temper price increases going forward and slow the recent declining trend in affordability, which fell to a ten-year low in the second quarter of 2018.

New home construction moved up a notch in the first half of 2018 compared with 2017, a development that should also temper, but not halt, price increases. Overall, housing permits rose 9.4 percent in the first half of 2018 compared to one year earlier, with increases of 7.3 percent in single-family permits and 11.4 percent in multi-family permits (which include rentals and condos). The state is on track to add about 130,000 new units this year, still far below its needs, which are closer to 200,000 units annually.

As long as home construction lags what the state needs, high housing costs will be a painful thorn in the side of the California economy. Until around 1990, California's population growth generally outpaced the rest of the U.S. Thereafter, California's population growth rate, with some ups and downs, has roughly matched the national pace. California no longer sucks in people from other states as it once did, particularly in the period including World War II and the Cold War when military spending was a growth factor. One reason that California is no longer attractive to net in-migration is surely the high cost of housing.

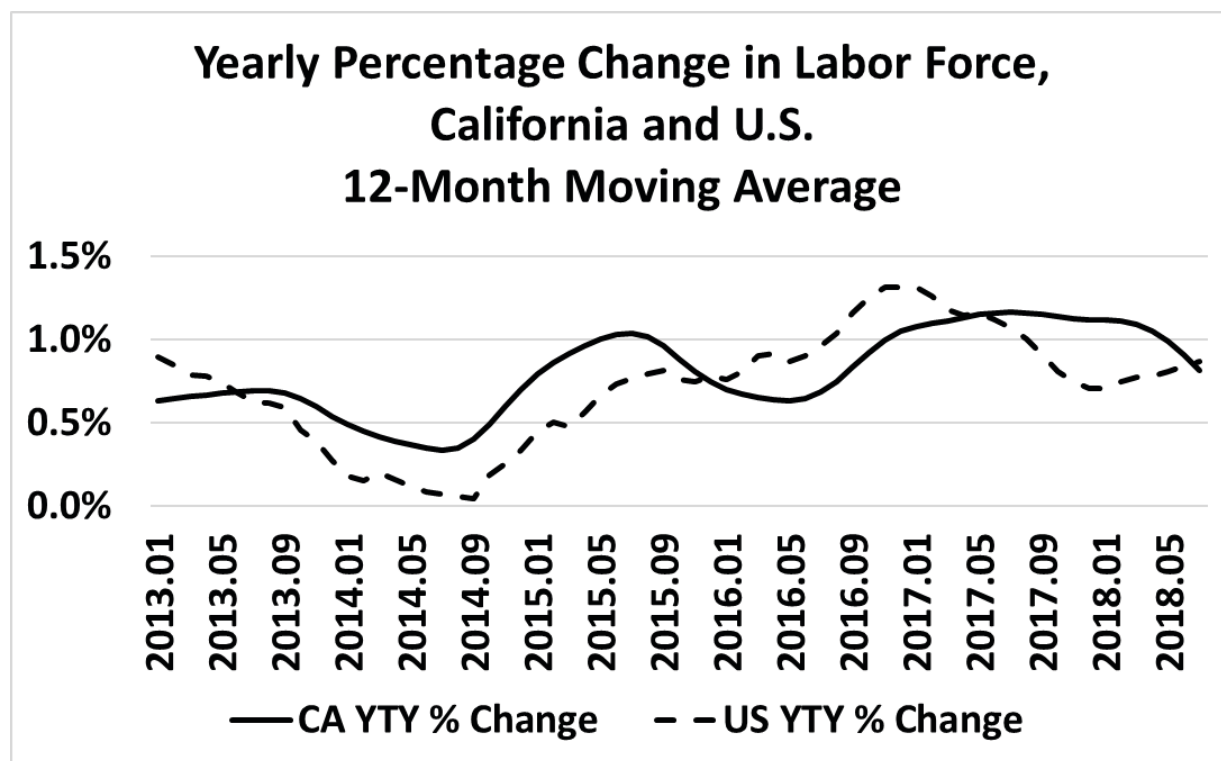
LONG-RUN CONCERNS LINGER

High housing costs impede California's economic growth over the long-term to the extent that these costs serve as a deterrent to labor force growth. Slow growth of the labor force means a slower rate of economic advance. The state's labor force growth rate has experienced significant slowing since the fall of 2017, with the year-to-year growth rate at just 0.2% as of July 2018.

Monthly labor force data are notoriously volatile, so a more consistent picture results from looking at twelve-month moving averages of growth. If anything, the longer-term story that emerges is more concerning. (Chart 1) Over the last few years, the growth rate of California's labor force followed roughly the same direction as the growth rate of the U.S. labor force – until the second half of 2017, when California's growth rate began a steady decline even as the U.S. growth rate accelerated.

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Chart 1



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In looking at the future growth trajectory of the California economy, the elephant in the room is clearly the high cost of housing and its impact on labor force growth. State-to-state migration data show an ongoing out-migration from California going back many years, which fortunately

has been more than offset in most years by positive international migration into the state and natural increase. This development is no accident; the California median home price has consistently been more than double the national median home price for several years. The rental market is no different, with a number of California metro areas ranking among the least affordable rental markets in the nation. As growth in the state's labor force slows further, it will limit the state's capacity for future growth and business development.

Finally, there are national and international developments that could one day produce a recession, independent of issues arising from within the state. While no recession seems on the immediate horizon at this writing, were one to occur, California would not escape its effects. Governor Jerry Brown, termed out as of January 2019, constantly warned about the impact of some future recession on the state economy and on the state budget. It's something his successor as governor will have to think about as Brown retires to his family ranch.

Chapter 10

Records of Investigations vs. Bulk Data Collection: Automatic License Plate Readers and the California Public Records Act

Stanley M. Paul

Stanley M. Paul, J.D., is the former Director of Communications at the
UCLA Luskin School of Public Affairs

“It is hard to imagine that the Legislature intended for the records of exemption to reach the large volume of data that plate scanners and other similar technologies now enable agencies to collect indiscriminately.”

California Supreme Court Associate Justice Ming Chin¹

Automated License Plate Readers (ALPRs) have been quietly in use collecting data for more than a decade in California cities and cities around the U.S.² ALPRs are among a growing number of mass surveillance technologies employed – not only in the U.S., but throughout cities worldwide for a variety of uses – by government, law enforcement, as well as private and commercial entities.³ Other technologies that collect data and aid government and law enforcement include facial recognition and DNA in conjunction with databases (both created and kept by law enforcement and private companies) as well as cameras fixed on drones. This chapter concerns the use of automated license plate readers (ALPRs) by law enforcement agencies in California, more specifically, how data are gathered by ALPRs as well as how they are used and stored.⁴

Along with their rapid proliferation and capabilities, surveillance and information gathering technologies, applications and algorithms have become a growing source of controversy pitting government and law enforcement use of technology against the public’s right to government transparency, “enshrined” in the California Constitution, and the right to – or expectation of – privacy, for individual citizens.⁵ But, electronic surveillance is nothing new, by more than a

¹From California Supreme Court Justice Chin’s published opinion from which the main summary and details of this chapter are taken. The case, American Civil Liberties Union Foundation of Southern California et al., v. The Superior Court of Los Angeles County (Case number [S227106](https://www.courts.ca.gov/opinions/archive/S227106)), can be accessed online at:

<http://www.courts.ca.gov/opinions/archive/S227106.PDF>. The California Court of Appeal opinion preceding the Supreme Court case ([B259392](https://www.courts.ca.gov/opinions/revpub/B259392)) may be found at: <http://www.courts.ca.gov/opinions/revpub/B259392M.PDF>.

²See Farivar, Cyrus, *Habeas Data: Privacy vs. the Rise of Surveillance Tech*, Melville House Publishing 2018., xiii, xiv.

³See *New York Times* story, “Inside China’s Dystopian Dreams: AI, Shame and Lots of Cameras,” July 8, 2018 by Paul Mozur at <https://www.nytimes.com/2018/07/08/business/china-surveillance-technology.html>.

⁴ALPRs are described by the parties and opinions generally as devices that can be mounted on stationary objects such as traffic lights at intersections or on police cars and can scan license plate numbers and process them almost instantaneously against so-called “hot lists” or lists of stolen vehicles or vehicles that may be associated with a crime or owners/drivers associated with crime. “The technology poses a threat to locational privacy; in aggregate the data can reveal detailed driving patterns or identify the drivers who frequent particular locations, such as protests, gun shows, and health care facilities.” Defined by EFF (including their concerns) in their publication at: <https://www.eff.org/pages/california-automated-license-plate-reader-policies>.

⁵In 1968, California adopted the California Public Records Act, which was, decades later, formally incorporated into the state’s constitution. Proposition 59, approved by California voters in 2004, “enshrined the CPRA’s right of access” in the state Constitution (Article I, section 3, subdivision (b)(1)).

century at least, nor is controversy surrounding its use.⁶ It is, rather, the ever-widening scope and all-pervasive, 24-7 nature of modern surveillance and the public policy implications of mass data gathering at unprecedented levels that brought the issue to the forefront in a recent legal dispute originating in Los Angeles, California – the focus of this chapter.

The Controversy

“This case concerns the collections of enormous amounts of bulk data.”

California Supreme Court Associate Justice Ming Chin

The legal challenge involving ALPR use discussed in this chapter arose in 2012 in Los Angeles and made its way to the California Supreme Court, herein after, “the Court,” which ruled unanimously on two main issues under California’s Public Record Act, or CPRA.⁷⁸ The controversy, which the Court ruled on in August 2017 (***American Civil Liberties Union Foundation of Southern California et al. vs. The Superior Court of Los Angeles County***) centered on a single week’s worth of scanned license plate data collected by both the Los Angeles Police Department (LAPD) and the Los Angeles County Sheriff’s Department (LASD) – the real parties in interest.⁹ Both sides cited and relied on the CPRA (California Govt. Code Section 6250 et seq.) to support their opposing positions in the controversy. Section 6250 states that “in enacting this chapter, the Legislature, mindful of the right of individuals to privacy, finds and declares that access to information concerning the conduct of the people’s business is a fundamental and necessary right of every person in this state.”

⁶See *Olmstead v. The United States* (277 U.S. 438), a 1928 U.S. Supreme Court case involving wire tapping of a infamous bootlegger during the prohibition era in the United States which is recounted in Melvin I. Urofsky’s 2015 book *Dissent and the Supreme Court: Its Role in the Court’s History and the Nation’s Constitutional Dialogue*.

⁷The California Public Records Act (CPRA) is found in the California Government Code section 6250 et seq. http://leginfo.ca.gov/faces/codes_displayText.xhtml?lawCode=GOV&division=7.&title=1.&part=&chapter=3.5.&article=1.

⁸The ACLU also appealed a Virginia case in which the issue focused on retention time of scanned license plate data. See Tom Jackson’s *Washington Post* story, “Are the police tracking you? Push to restrict license plate readers heads to Va. Supreme Court” at: https://www.washingtonpost.com/news/true-crime/wp/2016/12/23/are-the-police-tracking-you-push-to-restrict-license-plate-readers-heads-to-va-supreme-court/?noredirect=on&utm_term=.7d155cdbcc96. In April 2018 the lower court decision was overturned. See <http://www.nbc29.com/story/38054562/va-supreme-court-delivers-blow-to-police-use-of-license-plate-reader-technology>. The Virginia Supreme Court’s opinion can be read at: https://rutherford.org/files_images/general/04-26-2018_Neal-VA-Supreme-Court-Opinion.pdf?utm_source=The+Rutherford+Institute&utm_campaign=98c88f9b27-EMAIL_CAMPAIGN_2018_04_26&utm_medium=email&utm_term=0_d7ffde3304-98c88f9b27-42111237.

⁹At the time of this publication, proceedings in this case, which had been remanded back to the lower court to rule on one issue as directed by the California Supreme Court, were still in progress.

The dispute began when the American Civil Liberties Union Foundation of Southern California (ACLU) and the Electronic Frontier Foundation (EFF) requested the scanned data and were denied by both law enforcement agencies. While the law enforcement agencies agreed to provide some information (training manuals, instructions on APLR use, and information on “use and retention” of APLR data), they did not provide, or rather intentionally withheld, the requested scan data. Both law enforcement agencies cited an exemption to the CPRA, **section 6254(f)**, which makes exempt: **“Records of...investigations conducted by...any state or local police agency for correctional, law enforcement, or licensing purposes.”**¹⁰

The law enforcement agencies argued that all of the raw scanned data fell under this exemption (i.e., that all of the collected data were records of investigation under the exemption). The opposing parties did not argue that the collection of this information by ALPR technology was, or is, unlawful in the first place. Secondly, they also did not argue, or rather “conceded,” that scanned data that matched “vehicles linked to law enforcement investigations” under section 6254(f), while public information, could be withheld.

However, petitioners ACLU and EFF still maintained that the ALPR scan data were not exempt from disclosure under the CPRA. Neither side argued that the data, outside of disputed exemptions, did not constitute public records. What is important to this case, for the purposes of the 6254(f) exemption, is the interpretation and scope of what **“records of investigations”** means, which the court addressed and which will be examined below.

The second issue involved an analysis under the CPRA commonly referred to as the **“catchall”** provision or exemption. Section **6255(a)**, also part of CPRA, is used to determine, notwithstanding the public nature of the information, whether there is a reason to not disclose it. These reasons can have public policy implications as argued by law enforcement, and which the court reiterates, as follows: **“that the public interest in non-disclosure outweighs the public interest in disclosure.”** This criterion suggests that it is a balancing of these two interests which is critical. The side tipping the scales determines whether information will be or will not be disclosed as determined by the Court.¹¹ The Court notes in a 2006 California case that “the provision contemplates a case-by-case balancing process, with the burden of proof on the side of confidentiality.”¹² Among the “wide variety of considerations” the Court mentions as

¹⁰The full exemption may be read at:

https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV§ionNum=6254

¹¹Section 6255 (a) of the California Government Code reads: “The agency shall justify withholding any record by demonstrating that the record in question is exempt under express provisions of this chapter or that on the facts of the particular case the public interest served by not disclosing the record clearly outweighs the public interest served by disclosure of the record.”

http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV§ionNum=6255

¹²See *Michaelis, Montanoari & Johnson v. Superior Court* (2006) 38 Cal.4th 1065, 1071 and note 13.

determining this overbalance, is **privacy**, which, again, was advocated by both sides in the controversy.

The balancing test has been used in a number of recent California cases to determine whether various types of otherwise public information should be disclosed. One case considered communications by researchers working for a public university. Another considered the electronic communications of public officials conducting public business on their private electronic devices (e.g., cell phones and applications, personal home computers, and private Internet and email accounts).¹³ In the latter case, *City of San Jose v. The Superior Court of Santa Clara County* (2017), the same California Supreme Court noted both the CPRA and the California Constitution “strike a careful balance between public access and personal privacy.”¹⁴

Review of the Lower Court Proceedings

As recounted in the 2017 California Supreme Court opinion in this case, the original trial court (Los Angeles Superior Court), ruled in favor of the law enforcement agencies on both the records of investigations exemption and the catchall provision.¹⁵ However, the Court of Appeal, while affirming the lower court’s ruling on the 6254(f) exemption, did not rule on the catchall provision, i.e., it did not “reach” the 6255(a) question in making its determination.

The Court of Appeal relied on a 2001 case (*Haynie v. Superior Court*) citing the California Supreme Court precedent in that case, and “extending the exemption to ‘records of investigations conducted for the purpose of uncovering information surrounding the commission of the violation [of law] and its agency.’”¹⁶ The Court of Appeal also concluded that “...the exemption applied to records generated by the ALPR system in the course of scanning license plates to locate automobiles associated with a suspected crime under investigation,” denying the ACLU and EEF’s petition.

¹³See Paul, Stanley M., “Researcher Communications in California: The Public Interest in Non-disclosure” in *California Policy Options 2014* (Chapter pages 105-117) which may be accessed at: <https://issuu.com/uclapubaffairs/docs/californiapolicyoptions2014>; and Paul, Stanley M., “Conducting Public Business in Private: Electronic Communications and the California Public Records Act” in *California Policy Options 2018* (Chapter 10: pages 215-228), available at:

https://issuu.com/uclapubaffairs/docs/cpo_reader_2018_with_covers.

¹⁴2 Cal. 5th 608 (2017) (Case Number: S218066).

http://appellatecases.courtinfo.ca.gov/search/case/mainCaseScreen.cfm?dist=0&doc_id=2075289&doc_no=S218066&request_token=NilwLSInLkg%2BW1BNSCNNSExJUEA0UDxTliBeRzxSUCAgCg%3D%3D. A PDF version may also be read at: <http://www.courts.ca.gov/opinions/archive/S218066.PDF>.

¹⁵The Los Angeles Superior Court case reference number is: BS143004. Information on the LA courts and specific cases may be found at: <http://www.lacourt.org/casesummary/ui/index.aspx?casetype=civil>.

¹⁶26 Cal.4th 1061, 1071.

The California Supreme Court Analysis and the “Scope” of the 6254(f) Exemption

“The people have the right of access to information concerning the conduct of the people’s business...”

California Constitution, Article 1, Section 3, subdivision (b)(1)¹⁷

The California Supreme Court ultimately rejected both lower court (trial court and Court of Appeal) rulings on the “records of investigations” exemption using the California Constitution for guidance on how to analyze the issue. The California Constitution’s article 1, section 3, subdivision (b)(2), states that a statute, court rule or other authority, **“...shall be broadly construed if it furthers the people’s right of access, and narrowly construed if it limits the right to access.”** At the same time, the Court also cautioned, citing the reasoning in *Haynie*, the 2001 California case, that they were aware that there are instances where records should not be made public for “reasons of privacy, safety, and efficient governmental operation.”¹⁸

What this opinion means, and what the Court pointed out, is that the exemption, which would limit the right to access, would be analyzed for its scope as it applied to the current case. To accomplish this goal, the court outlined its method of analysis for section 6254(f), which included the following linguistic, statutory interpretation process and “constitutional imperative guidelines”:

- Construe the exemption for “records of investigations,” rather than “investigatory files.”
- Interpret the phrase “records for investigations” guided by “familiar principals of statutory interpretation.”
- Construe the CPRA in a manner that furthers disclosure, a “Constitutional imperative” i.e., “a presumption in favor of access.”

The Court of Appeals in its opinion also noted that:

“What is at issue is the meaning of the term “investigations” in section 6254, subdivision (f), and whether the functions performed by the ALPR system can properly be characterized as investigations under the statute. Though the CPRA does not define the term, and no case has considered whether records generated by an automated process, like that performed by the ALPR system, qualify for exemption under

¹⁷The Court notes that the California Public Records Act’s right of access was “enshrined” in the California Constitution by Proposition 59 (2004). California’s State Legislature enacted the CPRA in 1968 and modeled it on the federal Freedom of Information Act of the previous year (codified in the United States codes as 5 U.S.C. section 552).

¹⁸See *Haynie v. Superior Court* (2001 26 Cal. 4th 1061) noted by the Court to distinguish the exemption in this case. *Haynie* involved the records of an individual traffic stop. In that case, the Court upheld the records of investigations exemption but noted in the current case that “...within the ambit of ‘investigations’ we [did] not mean to shield everything law enforcement officers do from disclosure.”

subdivision (f), our Supreme Court has articulated some general principles to guide our analysis.”

In their analysis, the California Supreme Court disagreed with the lower court’s reliance on *Haynie*, which involved a single traffic stop stating, “The facts of *Haynie* are quite unlike the facts here. *Haynie* concerned an individual deputy stopping an individual driver, allegedly based on a single, close in time tip from a neighbor.” Distinguishing that case with the present case the Court states, **“This case concerns enormous amounts of bulk data,”** and explaining that while in *Haynie* there was an inquiry targeted at a suspected violation of the law so as to qualify as an “investigation,” in this case the Court states, **“The mere fact of an inquiry is not enough.”**

The California Supreme Court elaborated:

“Our case law recognizes that the CPRA should be interpreted in light of modern technological realities (citing a 2017 City of San Jose case which involved private emails and public officials; [see note 13 above]. It is hard to imagine that the Legislature intended for the records of investigations exemption to reach the large volume of data that plate scanners and other similar technologies now enable agencies to collect indiscriminately. Nothing in the text or structure of the statute suggests an effort to imbue the term with a meaning that capacious...This language suggests that the Legislature did not contemplate ‘investigation’ of hundreds of thousands of individuals simultaneously – nor, more to the point, an exemption that would cover all data collected during such a far-reaching inquiry.”

So, for the purposes of the linguistic determination of “investigation” the Court explained that the “process of ALPR scanning does not produce records of investigation, because scans are not conducted as part of a targeted inquiry into any particular crime or crimes. The scans are conducted with an expectation that the vast majority of the data collected will prove irrelevant for law enforcement purposes.”¹⁹ Furthermore, the court opines that querying the database for information on particular vehicles transforms existing ALPR scan records into exempt “records of...investigations” In short, they state: **“A plate scan always remains a result of bulk data collection, rather than a record of investigation even if it has the potential to match a future search inquiry.”** Thus, the exemption in this case failed. Perhaps the best example the Court provides to illustrate the scope of the exemption is found in the following statement:

“For example, if all that mattered were whether an agency sought to collect information in connection with a crime (as opposed to no crime at all), real parties could reduce the hot list to a single license plate number, scan literally every plate in Los Angeles, and be able to assert that all of the data collected were exempt from CPRA disclosure as an ‘investigation’ regarding that single plate. In light of CPRA’s purpose of providing access

¹⁹The Court provides information on both law enforcement agencies collection of scan data. The LAPD reported recording approximately 1.2 million cars per which and retaining the information for five years. The LASD reported more than 1.7 million scans per week and retains the information for two years.

to information regarding government activities, we doubt that (the) records of investigations exemption was intended to reach that far.”

Nevertheless, in making its decision, the Court agreed with the original trial court that the “balance of interests” weighed “clearly against disclosure of raw ALPR scan data.” It did so considering “individual privacy interests.” But, although the court agreed with the trial court it remanded (sent the case back) to the trial court for further proceedings because the original trial court made an additional determination in their ruling, that redacted (“anonymized”) plate scan data also could be withheld. The Court found that this approach was in error and thus remanded, saying, “the inquiry requires additional factual development.” (At the time of this publication that process in the lower court was still in progress.)

So, Who Won? What Does it Mean? Why is This Case Important?

“The promise of ‘smarter’ law enforcement is unquestionable real, but so is the fear of totalizing surveillance.”²⁰

The court writes that the purpose of the suit by the ACLU and EFF was “so that the legal and policy implications of the government’s use of ALPRs to collect vast amounts of information on almost exclusively law-abiding citizens [citizens of Los Angeles] may be fully and fairly debated.”²¹ And, after the trial in the original court, the California Supreme Court noted that the judge “acknowledged the intrusive nature of license plate scanning as well as its potential for abuse,” the major motivation of the suit by the ACLU and EFF in the first place. Ultimately, however, both law enforcement agencies were not required to produce the raw scanned data, an apparent win for law enforcement, claiming to have the privacy interests of citizens in mind in addition to concerns about the sensitive nature of investigations.

For example, in relying on the *Haynie* case, there was a concern by law enforcement in that case that, “Complainants and other witnesses whose identities were disclosed might disappear or refuse to cooperate. Suspects, who would be alerted to the investigation, might flee or threaten witnesses. Citizens would be reluctant to report suspicious activity. Evidence might be destroyed.” In addition, as an additional protection, the information is restricted to law enforcement, with penalties for misuse built in.

²⁰Ferguson, Andrew Guthrie, *The Rise of Big Data Policing: Surveillance, Race, and The Future of Law Enforcement*, 2017, New York University Press.

²¹The ACLU’s concerns are illustrated in their 2013 publication, “You Are Being Tracked: How License Plate Readers are Being Used To Record Americans’ Movements” available online at: <https://www.aclu.org/issues/privacy-technology/location-tracking/you-are-being-tracked>. The PDF is at: <https://www.aclu.org/files/assets/071613-aclu-alprreport-opt-v05.pdf>.

In fact, because the Court of Appeal did not reach the catchall provision question in their ruling, the California Supreme Court requested “additional briefing” on the catchall provision. Numerous parties provided so-called “friends of the court” or *amicus curiae* briefs in support of both sides.²² Among these, The California League of Cities, arguing that, “At bottom, the ACLU’s position is ironic – if it is the victor here, the very values of privacy and personal dignity it claims to pursue will be compromised by that success. It ought not to succeed.”²³ *Amici* on the side of disclosure, including about 30 newspapers, advocated for the privacy of individual citizens endangered by mass collection of data.²⁴ The Electronic Privacy Information Center (EPIC) on behalf of the ACLU and EEF wrote:

“California law enforcement agencies are deploying new surveillance systems—Automated License Plate Readers, cell-site simulators, fusion centers, and police body-worn cameras—that indiscriminately collect data about individuals. These programs raise two substantial privacy concerns. The public’s ability to obtain information about these programs is critical to prevent misuse and abuse.”²⁵

The ACLU and EEF, at a minimum were successful in having their privacy concerns validated and preserved to an extent because the ruling limits the scope of what may be included in “records of investigations.”

The Court writes: “The scans are conducted with an expectation that the vast majority of the data collected will prove irrelevant for law enforcement purposes. We recognize that it may not always be an easy task to identify the line between traditional ‘investigation’ and the sort of ‘bulk’ collection at issue here. But wherever the line may ultimately fall, it is at least clear that real parties’ [law enforcement] ALPR process falls on the bulk collection side of it.” Thus, the failure of the 6254(f) exemption in this case.

However, the Court cautioned that in the case of redaction or anonymization of data that might be subsequently released, “the courts may exercise no restraint on how data may be used apart from the restrictions placed on its dissemination under Civil Code section 1798.90.5 et seq,” which provides definitions, rules and restrictions on ALPR use and collection of information.²⁶

²²“An *amicus curiae* brief (or *amicus* brief) is submitted by one not a party to the lawsuit to aid the court in gaining the information it needs to make a proper decision or to urge a particular result on behalf of the public or a private interest of third parties who will be affected by the resolution of the dispute,” from Gifis, Steven H., *Law Dictionary*, Barron’s Educational Series, Inc., 1996.

²³The *amicus* brief is available at: <http://www.courts.ca.gov/documents/19-s227106-ac-league-ca-cities-et-al-supp-brief-032917.pdf>.

²⁴<https://www.sandiegouniontribune.com/news/watchdog/sdut-lpr-suit-2016may09-story.html>.

²⁵The *amicus* brief by EPIC may be read at: <https://www.epic.org/amicus/foia/california/alpr/EPIC-Amicus.pdf>

²⁶http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=1798.90.5.&lawCode=CIV. See also Kelsey Campbell-Dollaghan’s *FastCompany* article, “Sorry, your data can still be identified even if it’s

The Court also was cognizant of the issue of mass data collection. Melvin Urofsky, citing the famous 1967 case *Katz v. United States* (389 U.S. 347) which overturned the *Olmstead* (wiretapping) case, wrote that, “the Supreme Court [of the United States] fully adopted Brandeis’ position and overturned *Olmstead* completely.” (See note 6 above.) Urofsky also quoted Brandeis’ famous dissent:

“Experience should teach us to be most on our guard to protect liberty when the Government’s purposes are beneficent. Men born to freedom are naturally alert to repel invasion of their liberty by evil-minded rulers. The greatest dangers to liberty lurk in insidious encroachment by men of zeal, well-meaning but without understanding.”²⁷

The California Supreme Court noted that “of course the mere fact that the technology for such mass data collection was not in use when the Legislature enacted CPRA does not answer the question before us. As Fourth Amendment jurisprudence illustrates, a provision can apply to new and perhaps unanticipated technologies when the purpose behind the provision will be served.”²⁸

ALPR technology allows law enforcement agencies to gather vast quantities of scanned license plate information and compare it almost instantaneously with plate numbers associated with stolen vehicles, child abduction (AMBER alerts), or outstanding warrants. In fact, the court notes that both the LAPD and LASD boast impressive numbers of license plate records collected in just a single week: 1.2 million and 1.7-1.8 million, respectively. When compared with the so-called “hot list,” matches can be made quickly and efficiently that lead to arrests, recovered vehicles, and potentially lives saved.

Technology matched with data has already proved an effective aid to law enforcement and has been embraced by agencies statewide. Note, however that the court cites that only about .02 percent of data collected results in hits on the “hot list.” But what this fact means is that almost all of the data collected are from innocent citizens going about their daily business.²⁹

anonymized,” about a new MIT study on “reidentifying” anonymous data at:

<https://www.fastcompany.com/90278465/sorry-your-data-can-still-be-identified-even-its-anonymized>.

²⁷*Olmstead v. United States* (1928), including Justice Brandeis’s dissent, may be found at:

<https://www.law.cornell.edu/supremecourt/text/277/438>.

²⁸See also Justice Brandeis’ famous 1890 *Harvard Law Review* article, with Samuel D. Warren, on “The Right to Privacy” which deals with technology and privacy at <https://www.cs.cornell.edu/~shmat/courses/cs5436/warren-brandeis.pdf>.

²⁹See the 2013 ACLU publication, “You Are Being Tracked: How License Plate Readers are Being Used To Record Americans’ Movements” available online at: <https://www.aclu.org/issues/privacy-technology/location-tracking/you-are-being-tracked>. The PDF is at: <https://www.aclu.org/files/assets/071613-aclu-alprreport-opt-v05.pdf>.

Public Policy Concerns: What's at Stake?

“Recent events have made clear that getting policing right is one of the most pressing challenges we face as a society.”³⁰

Critics of the various surveillance and data gathering technologies argue that the government is indiscriminately gathering information on private citizens on an ongoing basis while the actual subjects or purposes of investigation represent only a miniscule percentage of the public. Innocent citizens are being tracked and under surveillance continually. What is important here is the sheer volume of data gathering that is going on 24 hours a day. Profiles of everyone are being gathered 24-7. In addition, some critics argue that the poor in particular can be targeted and exploited through such collected information.³¹ Commercial businesses such as repo companies, for example, are reportedly using ALPR technology to locate vehicles.³² Even private residents are getting into the act by installing their own scanning technology in their homes.³³

In his timely 2017 book, *Unwarranted: Policing Without Permission*, author Barry Friedman writes, “Whether it is omnipresent surveillance, or the use of force on the streets, or concerns about fairness and discrimination and race, it is now apparent to many people that change is needed. The question is how do we get there.” He continues in his chapter “The New World of Policing”:

“Policing today often relies on what law professor Christopher Slobogin calls ‘panvasive’ surveillance, by which he means it is aimed at ‘keeping tabs on the citizenry routinely...across huge numbers of people, most of whom are innocent of wrongdoing... Now, aided by technology, policing is increasingly proactive, increasing its reach deep into society, and making it extremely difficult for courts to draw lines about what is permissible and what is not. And so, once again, they mostly say yes.”

In short, the privacy vs. technology balance will continue to be debated in California and elsewhere for years to come.

³⁰Friedman, Barry, *Unwarranted: Policing Without Permission*, 2017, Farrar, Straus and Giroux, New York.

³¹See <https://www.theatlantic.com/technology/archive/2016/04/how-license-plate-readers-have-helped-police-and-lenders-target-the-poor/479436/>.

³²<http://www.betaboston.com/news/2014/03/05/a-vast-hidden-surveillance-network-runs-across-america-powered-by-the-repo-industry/>.

³³<https://www.scpr.org/programs/airtalk/2018/12/13/63993/big-brother-has-a-new-target-your-license-plate/>. In the case of facial recognition see Garvie, Clare “Perpetual Line-Up: Unregulated Police Face Recognition in America,” by Georgetown Law Center on Privacy and Technology at: http://www.academia.edu/29565110/Perpetual_Line-Up_Unregulated_Police_Face_Recognition_in_America. For further reading, see Igo, Sarah E., *The Known Citizen: A History of Privacy in Modern America*, 2018, Harvard University Press; and Ferguson, Andrew Guthrie, *The Rise of Big Data Policing: Surveillance, Race, and The Future of Law Enforcement*, 2017, New York University Press.

